ADDENDUM #5

Reading Fire Department
Marion Street Station
1201 N. 9th Street
City of Reading, PA. 19604

MWS Project No. 20-088
Date: 8/25/2021

Re: Addendum #5

ADDENDUM ITEMS:

Clarifications

1. **Revise the previously submitted response:** *Contractor to provide the following for SH-1 (in lieu of the Delta shower/bar), per Addendum #1:*
   - *Kohler K-99243-G-CP Shower Slide Bar Kit*
   - *Kohler K-98351-CP wall-mount supply elbow with check valve*
   - *Kohler K-TS98147-4-CP Rite-Temp Valve Trim*
   - *Kohler K-8304-K Valve Body & Cartridge Kit Complete*

To the following:

Contractor to provide the following for SH-1 (in lieu of the Delta shower/bar), per **Addendum #5**:
- Kohler K-99243-G-CP Shower Slide Bar Kit
- Kohler K-98351-CP wall-mount supply elbow with check valve
- Kohler K-TS98147-4-CP Rite-Temp Valve Trim
- Kohler K-8304-K Valve Body & Cartridge Kit Complete

2. **Revise the previously submitted response:**
   8" combination water/fire main is now by the Plumbing prime, per Addendum #1. Fire Protection prime scope now to start after tee to domestic water service in the mechanical room.

To the following:

8" combination water/fire main is now by the Plumbing prime, per **Addendum #5**. Fire Protection prime scope now to start after tee to domestic water service in the mechanical room.

3. Storefront systems SF-1, SF-2, SF-3, SF-4, SF-5 shall be revised to a 6" curtain wall framing systems. Reference specification section 08-4413 – GLAZED ALUMINUM CURTAIN WALLS for additional information. Glazing for openings remains as indicated within the contract documents.

MANNS WOODWARD STUDIOS
ARCHITECTURE + INTERIORS + PLANNING
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Specification Additions

1. Add the following specification section to the project specification manual and 22 A, Plumbing Prime Contractor and 1A General Prime Contractors contract package.
    a. **221313 – Facility Sanitary Sewers**

Drawing Modifications/Additions/Deletions

The following shall replace or be in addition to the corresponding drawings within the bid documents/ prime contractors contract packages respectively:

1. Replace the following sheet P1.11 with **P1.11, dated 8/27/2021**
2. Replace the following sheet P3.11 with **P3.11, dated 8/27/2021**
3. Replace the following sheet P6.01 with **P6.01, dated 8/27/2021**
4. Replace the following sheet F1.01 with **F1.01, dated 8/27/2021**
5. Replace the following sheet E0.00 with **E0.00, dated 8/27/2021**
6. Replace the following sheet E3.00 with **E3.00, dated 8/27/2021**
7. Replace the following sheet E3.01 with **E3.01, dated 8/27/2021**
8. Replace the following sheet E6.00 with **E6.00, dated 8/27/2021**
9. Replace the following sheet E7.00 with **E7.00, dated 8/27/2021**

- END ADDENDUM #5 -

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CERTIFICATE OF ACKNOWLEDGMENT OF RECEIPT OF ADDENDUM

THE CITY OF READING

ADDENDUM NO. 5

RFP: **9th and Marion Fire Station**

DUE DATE: September 2, 2021
3:00 P.M. Prevailing Time

NOTICE

I, HEREBY CERTIFY THAT THE CHANGES COVERED BY THIS ADDENDUM HAVE BEEN TAKEN INTO ACCOUNT.

Firm Name (Type or Print)_____

Authorized Signature _____

Title_____

Name (Type or Print)_____

Date_____

SECTION 221313
FACILITY SANITARY SEWERS

PART 1 - GENERAL

1.1 STIPULATIONS

A. The specifications sections "General Conditions of the Construction Contract", "Special Conditions", and "Division 1 - General Requirements" form a part of this Section by this reference thereto, and shall have the same force and effect as if printed herewith in full.

1.2 SUMMARY

A. Section Includes:

1. Hub-and-spigot, cast-iron soil pipe and fittings.
2. Hubless cast-iron soil pipe and fittings.
3. Nonpressure-type transition couplings.
4. Pressure-type pipe couplings.
5. Expansion joints and deflection fittings.
6. Cleanouts.
7. Encasement for piping.
8. Manholes.
9. Concrete.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For manholes. Include plans, elevations, sections, details, and frames and covers.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings:

1. Show system piping in profile. Draw profiles to horizontal scale of not less than 1 inch equals 50 feet and to vertical scale of not less than 1 inch equals 5 feet. Indicate manholes and piping. Show types, sizes, materials, and elevations of other utilities crossing system piping.

B. Product Certificates: For each type of pipe and fitting.

C. Field quality-control reports.

PART 2 - PRODUCTS

2.1 PVC PIPE AND FITTINGS

A. PVC Type PSM Sewer Piping:

1. Pipe: ASTM D3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D3034, PVC with bell ends.
3. Gaskets: ASTM F477, elastomeric seals.

2.2 NONPRESSURE-TYPE TRANSITION COUPLINGS

A. Comply with ASTM C1173, elastomeric, sleeve-type, reducing or transition coupling; for joining underground nonpressure piping. Include ends of same sizes as piping to be joined and include corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:
1. For Plastic Pipes: ASTM F477, elastomeric seal or ASTM D5926, PVC.
2. For Dissimilar Pipes: ASTM D5926, PVC or other material compatible with pipe materials being joined.

C. Unshielded, Flexible Couplings:

1. Description: Elastomeric sleeve with stainless-steel shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.

D. Ring-Type, Flexible Couplings:

1. Description: Elastomeric compression seal with dimensions to fit inside bell of larger pipe and for spigot of smaller pipe to fit inside ring.

E. Nonpressure-Type, Rigid Couplings:

1. Description: ASTM C1461, sleeve-type, reducing- or transition-type mechanical coupling; molded from ASTM C1440, TPE material; with corrosion-resistant-metal tension band and tightening mechanism on each end.

2.3 CLEANOUTS

A. Cast-Iron Cleanouts:

1. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.

2. Top-Loading Classification(s): Light Duty and Heavy Duty.

3. Sewer Pipe Fitting and Riser to Cleanout: ASTM A74, Service class, cast-iron soil pipe and fittings.

2.4 MANHOLES

A. Standard Precast Concrete Manholes:

1. Description: ASTM C478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 48 inches minimum unless otherwise indicated.
3. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
4. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section; with separate base slab or base section with integral floor.
5. Riser Sections: 4-inch minimum thickness, of length to provide depth indicated.
6. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated; with top of cone of size that matches grade rings.
7. Joint Sealant: ASTM C990, bitumen or butyl rubber.
8. Resilient Pipe Connectors: ASTM C923, cast or fitted into manhole walls, for each pipe connection.
9. Steps: Individual FRP steps or FRP ladder; wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
10. Adjusting Rings: Interlocking HDPE rings, with level or sloped edge in thickness and diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.
11. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.

B. Manhole Frames and Covers:

1. Description: Ferrous; 24-inch ID by 7- to 9-inch riser, with 4-inch-minimum-width flange and 26-inch-diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "SANITARY SEWER."
2. Material: ASTM A536, Grade 60-40-18 ductile iron unless otherwise indicated.

2.5 CONCRETE

A. General: Cast-in-place concrete complying with ACI 318, ACI 350, and the following:

1. Cement: ASTM C150/C150M, Type II.
2. Fine Aggregate: ASTM C33/C33M, sand.
3. Coarse Aggregate: ASTM C33/C33M, crushed gravel.
4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A1064/A1064M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A615/A615M, Grade 60 deformed steel.

C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.

1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.

a. Invert Slope: 2 percent through manhole.

2. Benches: Concrete, sloped to drain into channel.

a. Slope: 4 percent.

D. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A1064/A1064M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A615/A615M, Grade 60 deformed steel.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details to indicate general location and arrangement of underground sanitary sewer piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.

F. Install gravity-flow, nonpressure, drainage piping according to the following:

1. Install piping pitched down in direction of flow, at minimum slope of 1 percent unless otherwise indicated.
2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
3. Install piping with 36-inch minimum cover.
4. Install PVC Type PSM sewer piping according to ASTM D2321 and ASTM F1668.

G. Clear interior of piping and manholes of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, nonpressure, drainage piping according to the following:
1. Join PVC Type PSM sewer piping according to ASTM D2321 and ASTM D3034 for elastomeric-seal joints or ASTM D3034 for elastomeric-gasket joints.
2. Join dissimilar pipe materials with nonpressure-type, flexible couplings.

B. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

1. Use nonpressure flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.

a. Unshielded flexible couplings for pipes of same or slightly different OD.
b. Unshielded, increaser/reducer-pattern, flexible couplings for pipes with different OD.

3.4 MANHOLE INSTALLATION

A. General: Install manholes complete with appurtenances and accessories indicated.

B. Install precast concrete manhole sections with sealants according to ASTM C891.

C. Form continuous concrete channels and benches between inlets and outlet.

D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere unless otherwise indicated.

3.5 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318.

3.6 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts, and use cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.

1. Use Light-Duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.
2. Use Heavy-Duty, top-loading classification cleanouts in vehicle-traffic service areas.

B. Set cleanout frames and covers in earth in cast-in-place-concrete block, 18 by 18 by 12 inches deep. Set with tops 1 inch above surrounding grade.

C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.7 CONNECTIONS

A. Make connections to existing piping and underground manholes.

1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye fitting plus 6-inch overlap with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
3. Make branch connections from side into existing piping, NPS 21 or larger, or to underground manholes by cutting opening into existing unit large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of, and be flush with, inside wall unless otherwise indicated. On outside of pipe or manhole wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.

    a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.
    b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.

4. Protect existing piping and manholes to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

3.8 CLOSING ABANDONED SANITARY SEWER SYSTEMS

A. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below:

1. Close open ends of piping with at least 8-inch- thick, brick masonry bulkheads.
2. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.

B. Abandoned Manholes: Excavate around manhole as required and use either procedure below:

1. Remove manhole and close open ends of remaining piping.
2. Remove top of manhole down to at least 36 inches below final grade. Fill to within 12 inches of top with stone, rubble, gravel, or compacted dirt. Fill to top with concrete.

C. Backfill to grade according to Section 312000 "Earth Moving."

3.9 IDENTIFICATION

A. Comply with requirements in Section 312000 "Earth Moving" for underground utility identification devices. Arrange for installation of green warning tapes directly over piping and at outside edges of underground manholes.

1. Use warning tape or detectable warning tape over ferrous piping.
2. Use detectable warning tape over nonferrous piping and over edges of underground manholes.

3.10 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate report for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Hydrostatic Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction and the following:

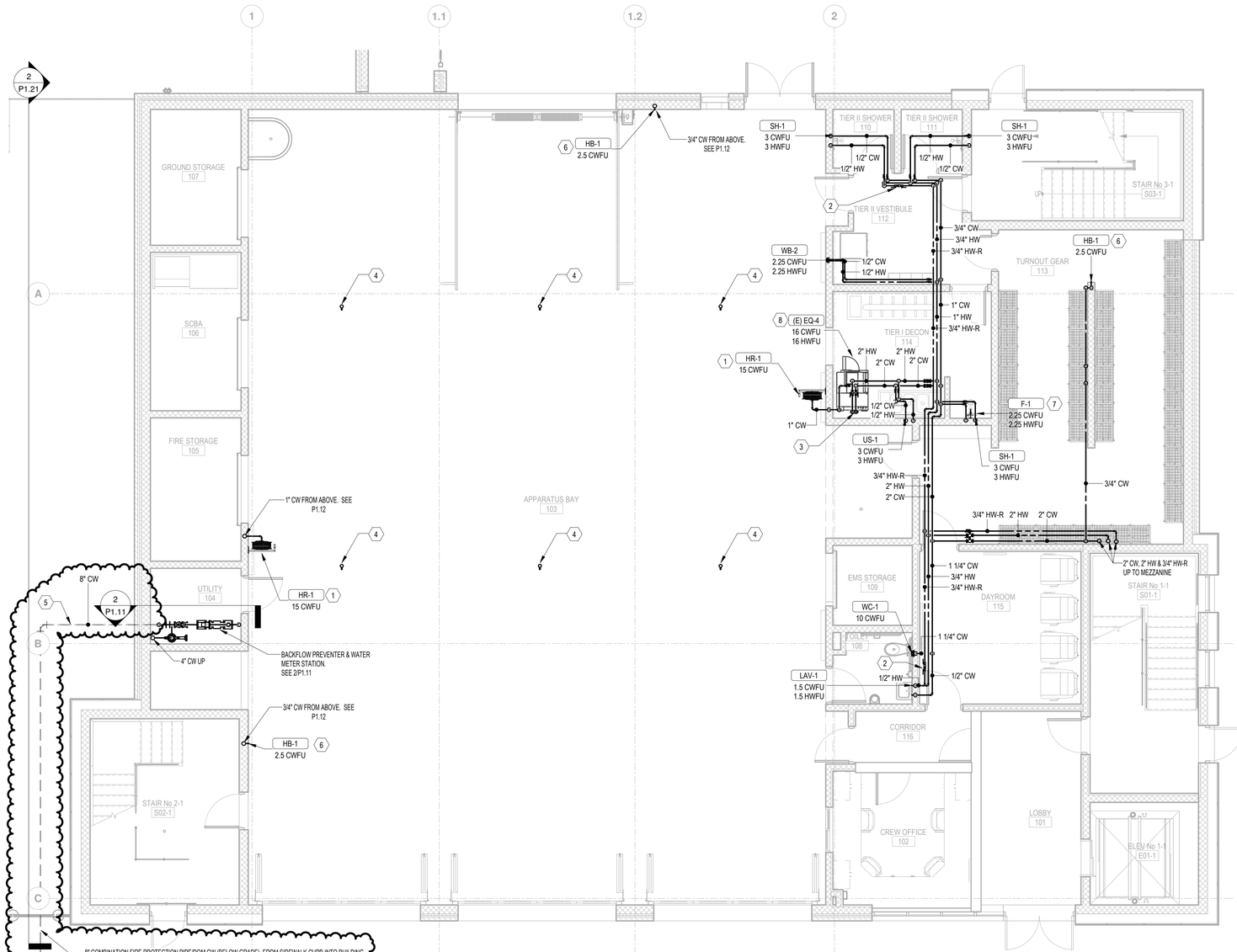
    a. Fill sewer piping with water. Test with pressure of at least 10-foot head of water, and maintain such pressure without leakage for at least 15 minutes.
    b. Close openings in system and fill with water.
    c. Purge air and refill with water.
    d. Disconnect water supply.
    e. Test and inspect joints for leaks.

6. Manholes: Perform hydraulic test according to ASTM C969.

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

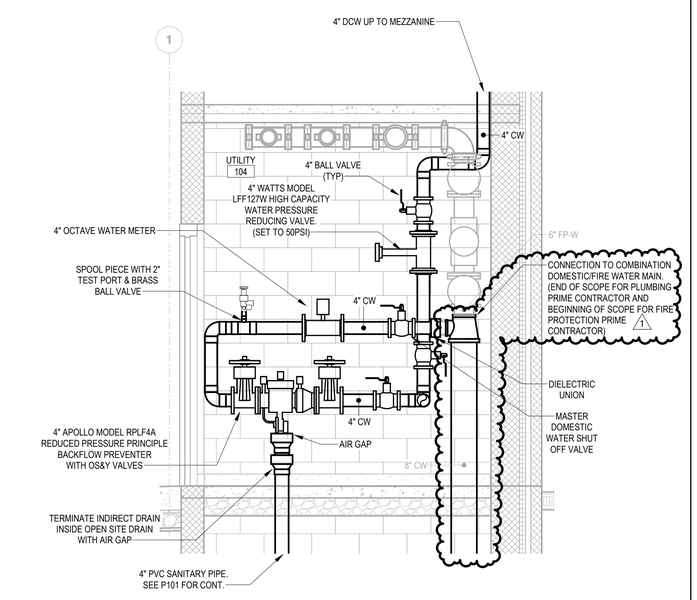
END OF SECTION 221313



1 FIRST FLOOR - DOMESTIC PLUMBING - FLOOR PLAN

3/16" = 1'-0"

0 4' 8' 12'



2 WATER METER STATION SECTION

1/2" = 1'-0"

0 1' 2' 4'

*HALFTONED PIPING BY FIRE PROTECTION PRIME CONTRACTOR. ALL OTHER PIPING IN VIEW SHALL BE THE RESPONSIBILITY OF THE PLUMBING PRIME CONTRACTOR.

PLUMBING GENERAL NOTES

1. HOT WATER SUPPLY PIPING SERVING PUBLIC LAVATORY FAUCETS SHALL HAVE 0'-6" MAXIMUM ALLOWABLE PIPING LENGTH FROM THE NEAREST SOURCE OF THE HEATED WATER OR RE-CIRCULATION PIPE CONNECTION TO THE TERMINATION OF THE FIXTURE SUPPLY PIPING. COORDINATE WITH ALL OTHER DISCIPLINES AND FIELD ROUTE HOT WATER PIPING AS NECESSARY.
2. PROVIDE THERMOSTATIC MIXING VALVE FOR ALL FAUCETS. SET TEMPERATURE TO 105 DEGREES FAHRENHEIT.
3. PIPING SHOWN DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE PIPING WITH ALL OTHER DISCIPLINES AND PRIME CONTRACTORS INCLUDING BUT NOT LIMITED TO; STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.
4. PROVIDE ISOLATION VALVE FOR ALL DOMESTIC WATER AND NATURAL GAS SYSTEMS AT ALL BRANCHES AND MAINS FROM RISERS. PROVIDE ACCESS PANELS WHERE REQUIRED.
5. ALL DOMESTIC WATER PIPING SYSTEMS AND NATURAL GAS PIPING SHALL BE INSTALLED AS CLOSE TO DECK ABOVE AS POSSIBLE.
6. ALL EXPOSED PIPING IN CEILING SPACE SHALL BE INSTALLED WITH HARD SHELL INSULATION JACKETING.
7. THERE SHALL BE NO EXPOSED PIPING ON ANY EXPOSED BLOCK WALLS. ALL PIPING SHALL BE INSTALLED EMBEDDED WITHIN BLOCK WALL.

KEYNOTES

1. MOUNT HOSE REEL 60" ABOVE FINISHED FLOOR. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
2. PROVIDE THERMOSTATIC BALANCING VALVE MANUFACTURED BY CircuitSolver, MODEL CSUA WITH INTEGRAL CHECK VALVE. CONTRACTOR SHALL PLACE VALVE AT ACCESSIBLE LOCATION.
3. 1 1/4" CW & 1 1/4" HW PIPING TO DECON WASHING MACHINE. PIPING SHALL TERMINATE AT 4'-0" AFF WITH BALL VALVE. BALL VALVE SHALL HAVE CLOSE POSITION AS VERTICAL DOWN.
4. 3" FULL PORT BALL VALVE 16'-0" ABOVE FINISHED FLOOR. BALL VALVE CLOSED POSITION SHALL BE IN THE VERTICAL DOWN POSITION. PLUMBING PRIME TO COORDINATE FINAL LOCATION OF VERTICAL LEG OF SUPPLY LINE WITH FIRE DEPARTMENTS APPARATUS FILL PORTS.
5. 8" COMBINATION FIRE/DOMESTIC WATER MAIN TO SITE BY PLUMBING PRIME CONTRACTOR. SEE 1 SITE DRAWINGS FOR CONTINUATIONS.
6. ¾" CW PIPING SERVING HB-1 SHALL BE INSTALLED IN CMU WALL AND SHALL EXTEND OUT OF WALL AT PLUMBING FIXTURE.
7. INSTALL F-1 IN SHOWER STALL 2'-0" AFF.
8. PLUMBING CONTRACTOR SHALL RELOCATE (E) EXTRACTOR FROM BASEMENT OF EXISTING FIRE HOUSE TO TIER 1 DECON 114.

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SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, SCOTT A. FRENCK, PE, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF PENNSYLVANIA. ENG. CERT. OF AUTH NO. PE084123 EXP DATE: 9-30-21

CONSULTANT: DEDC ENGINEERING DESIGN CONSULTING

MARION STREET STATION, READING FIRE DEPARTMENT
1201 NORTH 9TH STREET
CITY OF READING, PA 19604

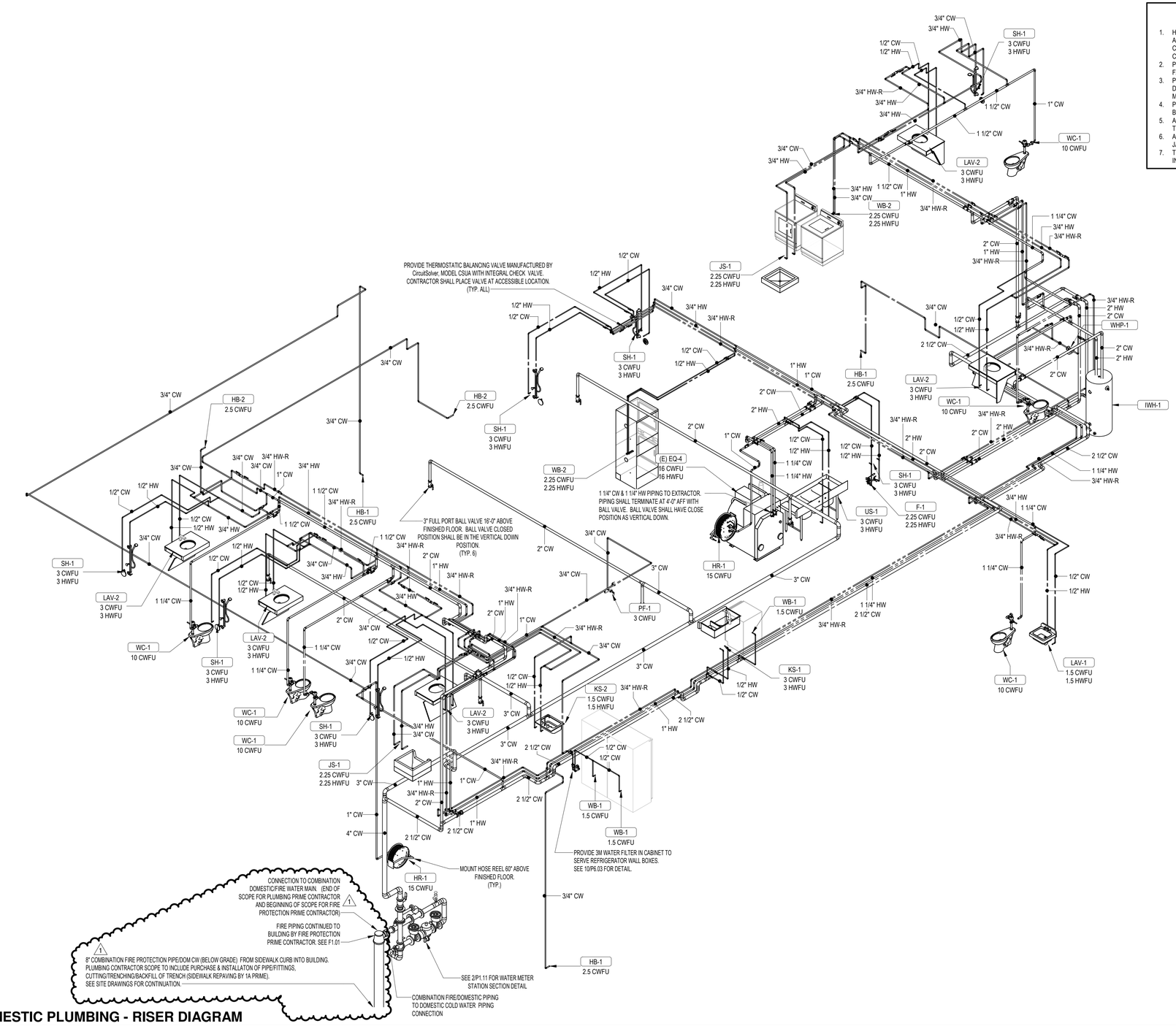
NO.	DESCRIPTION	DATE
1	ADDENDUM #5	08/27/2

PROJECT NUMBER: 20-088
PROJECT SET: BID/PERMIT
DATE ISSUED: 07/09/2021
DRAWING TITLE: FIRST FLOOR DOMESTIC PLAN
SHEET NUMBER: P1.11

8/25/2021 11:50:44 AM

PLUMBING GENERAL NOTES

1. HOT WATER SUPPLY PIPING SERVING PUBLIC LAVATORY FAUCETS SHALL HAVE 0'-6" MAXIMUM ALLOWABLE PIPING LENGTH FROM THE NEAREST SOURCE OF THE HEATED WATER OR RE-CIRCULATION PIPE CONNECTION TO THE TERMINATION OF THE FIXTURE SUPPLY PIPING. COORDINATE WITH ALL OTHER DISCIPLINES AND FIELD ROUTE HOT WATER PIPING AS NECESSARY.
2. PROVIDE THERMOSTATIC MIXING VALVE FOR ALL FAUCETS. SET TEMPERATURE TO 105 DEGREES FAHRENHEIT.
3. PIPING SHOWN DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE PIPING WITH ALL OTHER DISCIPLINES AND PRIME CONTRACTORS INCLUDING BUT NOT LIMITED TO; STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.
4. PROVIDE ISOLATION VALVE FOR ALL DOMESTIC WATER AND NATURAL GAS SYSTEMS AT ALL BRANCHES AND MAINS FROM RISERS. PROVIDE ACCESS PANELS WHERE REQUIRED.
5. ALL DOMESTIC WATER PIPING SYSTEMS AND NATURAL GAS PIPING SHALL BE INSTALLED AS CLOSE TO DECK ABOVE AS POSSIBLE.
6. ALL EXPOSED PIPING IN CEILING SPACE SHALL BE INSTALLED WITH HARD SHELL INSULATION JACKETING.
7. THERE SHALL BE NO EXPOSED PIPING ON WALLS IN APPARATUS BAY AREA. ALL PIPING SHALL BE INSTALLED EMBEDDED WITHIN BLOCK WALL.



1 DOMESTIC PLUMBING - RISER DIAGRAM

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CONSULTANT: DEDC ENGINEERING DESIGN CONSULTING

MARION STREET STATION, READING FIRE DEPARTMENT
1201 NORTH 9TH STREET
CITY OF READING, PA 19604

NO.	DESCRIPTION	DATE
1	ADDENDUM #5	08/27/2

PROJECT NUMBER: 20-088
PROJECT SET: BID/PERMIT
DATE ISSUED: 07/09/2021
DRAWING TITLE: DOMESTIC RISER DIAGRAM
SHEET NUMBER: P3.11

8/25/2021 11:50:51 AM

Plumbing Fixture Schedule

	ID	Count	Manufacturer	Model	Description	DFU	CWFU	HWFU	Type Comments
	CO-2	1	Zurn Industries, LLC	Z1400-BZ1	Floor Cleanout with Type B Cover and EZ1™ Technology				ZN1400-2NH-5BZ1
	CO-3	2	Zurn Industries, LLC	Z1400-BZ1	Floor Cleanout with Type B Cover and EZ1™ Technology				ZN1400-3NH-5BZ1
	CO-4	6	Zurn Industries, LLC	Z1400-BZ1	Floor Cleanout with Type B Cover and EZ1™ Technology				D.C.C.I. WITH POLISHED NICKEL BRONZE TOP.
	DP-1	1	CAMCO		27" X 25" POLYPROPYLENE WASHING MACHINE DRAIN PAN	3			
(E)	EQ-4	1	MILNOR	MWT27X5	RIGID-MOUNT WASHER-EXTRACTOR WITH 60 LB. CAPACITY.	6	16	16	PLUMBING CONTRACTOR SHALL RELOCATE (E) EXTRACTOR FROM BASEMENT OF EXISTING FIRE HOUSE TO TIER 1 DECON 114.
	F-1	1	Fiat Products	830-AA	SERVICE SINK FAUCET		2.25	2.25	CHROME PLATED, FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOD AND 3/4" HOSE THREAD ON SPOUT. 8" CENTERSET.
	FCO-1	3	Zurn Industreis, LLC	Z1474	HEAVY DUTY CLEANOUT HOUSING. DURA-COATED CAST IRON BODY WITH INTEGRAL ANCHOR FLANGE, SECURED SCORIATED COVER WITH LIFTING DEVICE. THE CLEANOUT HOUSING HAS AN APPROXIMATE WEIGHT OF 38 LBS.				FURNISH WITH VANDAL-PROOF SCREW AND INTERANAL CLEANOUT FURRULE WITH PLUG Z1440 (4" NO-HUB OUTLET)
	FD-1	16	Zurn Industreis, LLC	EZ1-PV3-SS	5" TOP ASSEMBLY ADJUSTABLE ON GRADE FLOOR DRAIN WITH EZ1 TECHNOLOGY.	2			3" OUTLET. FURNISH WITH ROUND STAINLESS STEEL STRAINER.
	FS-1	1	Zurn Industreis, LLC	FD2375	12"X12" A.R.E. FLOOR SINK WITH 6" SUMP DEPTH.	3			3" NO HUB OUTLET. FURNISH WITH FULL GRATE.
	GB-1	1	BURNABY MANUFACTURING LTD	GR0101-SS-50	RECESSED STAINLESS STEEL GAS PLUG WITH 3/8" HOSE CONNECTION		2.5		BOX FACE FINISH AND BOX FINAL LOCATION/ELEVATION SHALL BE COORDINATED WITH ARCHITECT.
	GI-1	1	THERMACO BIG DIPPER	W-200-IS	IS POINT SOURCE AUTOMATIC GREASE REMOVAL SYSTEM				STAINLESS STEEL, 115V , 60 HZ, 1Ø. 102 AMP, 20GPM PEAK FLOW, 2" INLET/OUTLET
	HB-1	3	Jay R. Smith Mfg. Co.	5670	BENT NOSE HOSE VALVE WITH FLANGE FOR INTERIOR AND/OR MILD CLIMATE.		2.5		FURNISH WITH VACUUM BREAKER
	HB-2	2	Jay R. Smith Mfg. Co.	5515	GAURDIAN PLUS DUAL CHECK 1/4 TURN NON-FREEZE HYDRANT WITH AUTOMATIC DRAINING INTEGRAL VACUUM BREAKER, INTEGRAL SERVICE SHUT-OFF VALVE, CUAL CHECK VALVE, AND STAINLESS STEEL BOX.		2.5		BOX FACE FINISH AND BOX FINAL LOCATION/ELEVATION SHALL BE COORDINATED WITH ARCHITECT.
	HR-1	2	Reelcraft	D9399 OLPB	ULTIMATE DUTY SPRING RETRACTABLE HOSE REEL.		15		PROVIDE 75'-0" LONG 3/4" HOSE AND WALL MOUNTED UNIVERSAL SWING BRACKET 600980. MOUNT HOSE REEL APPROXIMATELY 5'-0" ABOVE FINISHED FLOOR.
	JS-1	2	Fiat Products	MSB-2424	MOP SINK, 24"X24"X10" DEEP, FLOOR MOUNTED, MOLDED-STONE "SMC" ONE PIECE HOMOGENEOUS PRODUCT, AND INTEGRAL DRAIN WITH S.S. DOMED STRAINER AND LINT BASKET 3" OUTLET	2	2.25	2.25	PROVIDE WITH SERVICE FAUCET 830-AA, HOSE AND HOSE BRACKET 832-AA, AND MOP HANGER 889-CC
	KS-1	1	ELKAY	ELUHF332010	LUSTERTONE™ CLASSIC STAINLESS STEEL 33" X 20-1/2" X 10", EQUAL DOUBLE BOWL FARMHOUSE SINK. SINK IS MANUFACTURED FROM 18 GAUGE 304 STAINLESS STEEL WITH A LUSTROUS SATIN FINISH, REAR CENTER DRAIN PLACEMENT, AND SIDES AND BOTTOM PADS.	2	3	3	FURNISH WITH ELKAY AVADO SINGLE HOLE KITCHEN FAUCET WITH SEMI-PROFESSIONAL SPOUT AND LEVER HANDLE, MODEL LKAV2061. FAUCET FINISH SHALL BE LUSTROUS STEEL (LS).
	KS-2	1	ELKAY	ELUHAD131650PD	ELKAY LUSTERTONE CLASSIC STAINLESS STEEL 16"x18-1/2"x4-7/8" SINGLE BOWL UNDERMOUNT ADA SINK WITH PERFECT DRAIN. 304 STAINLESS STEEL WITH A LUSTROUS SATIN FINISH.	2	1.5	1.5	FURNISH WITH ELKAY AVADO SINGLE HOLE KITCHEN FAUCET WITH SEMI-PROFESSIONAL SPOUT AND LEVER HANDLE, MODEL LKAV2061. FAUCET FINISH SHALL BE LUSTROUS STEEL (LS).
	LAV-1	1	ELKAY	WCLWO1923OSDC	ELKAY STURDIBILT STAINLESS STEEL 19" X 23" X 4", WALL HUNG SINGLE BOWL LAVATORY SINK KIT. SINK IS MANUFACTURED FROM 304 STAINLESS STEEL WITH A LUSTROUS SATIN FINISH, REAR CENTER DRAIN PLACEMENT, AND BOTTOM ONLY PADS.	1	1.5	1.5	FURNISH WITH ELKAY LKD232SBH5C FAUCET. FAUCET FINISH SHALL BE LUSTROUS SATIN. PROVIDE WITH ADA-COMPLIANT UNDERSINK PIPE PROTECTION WHERE SUPPLY AND SANITARY PIPING IS EXPOSED.
	LAV-2	5	Kohler Company	K-2882	17-1/4"x13"x6-3/4" VERTICYL RECTANGLE UNDERMOUNT BATHROOM SINK, VITREOUS CHINA.	3	3	3	FURNISH WITH KOHLER JULY SINGLE-HOLE BATHROOM SINK FAUCET MODEL K-98146-4. COORDINATE FINISH WITH ARCHITECT. PROVIDE WITH ADA-COMPLIANT UNDERSINK PIPE PROTECTION WHERE SUPPLY AND SANITARY PIPING IS EXPOSED.
	PF-1	1	Kohler Company	K-99270	ARTIFACTS WALL-MOUNT POT FILLER FAUCET.		3		22" EXTENDED SPOUT. POT FILLER FINISH SHALL BE VIBRANT STAINLESS.
	SD-1	4	Quickdrain USA	PLD36 - Drain Body 36	Channel Drainage System	2			PROLINE DRAIN BODY, 18 GUAGE 316L STAINLESS STEEL CUSTOM LINEAR FLOOR DRAIN. DRAIN BODY CAN BE ANY SIZE FROM 10" TO 100". INTERNALLY PITCHED CHANNEL DRAIN BODY. 34" MAXIMUM HORIZONTAL DISTANCE FOR PITCHED CHANNEL TO WASTE OUTLET. 2" I.D. SCHEDULE 10 STEEL DOWN SPOUT WASTE OUTLET CAN BE LOCATED AT VIRTUALLY ANY LOCATION.
	SH-1 ⚠1	7	KOHLER	SEE COMMENTS	MULTIFUNCTION SHOWER HEAD ON SLIDE BAR WITH HOSE AND FLOOR DRAIN.	2	3	3	PROVIDE KOHLER K-99243-G-CP SHOWER SLIDE BAR KIT, KOHLER K-98351-CP WALL-MOUNT SUPPLY ELBOW WITH CHECK VALVE, KOHLER K-TS98147-4-CP RITE-TEMP VALVE TRIM, & KOHLER K-8304-K VALVE BODY & CARTRIDGE KIT COMPLETE. SHOWER SYSTEM SHALL BE ASSE 1016 COMPLIANT TYPE "T/P" THERMOSTATIC/PRESSURE BALANCING COMBINATION VALVE WITH LEVER HANDLE WITH ARM AND FLANGE, INTEGRAL STOPS, AND IN-LINE VACUUM BREAKER. PROVIDE WITH MANUFACTURER'S FLOW RATE RESTRICTOR ON SHOWERHEAD. PROVIDE ZURN EZ-PVZ-SS 5" TOP ASSEMBLY ADJUSTABLE ON GRADE FLOOR DRAIN WITH EZ1 TECHNOLOGY AS SHOWER CENTER DRAIN. INSTALL SHOWER SYSTEM PER ADA REQUIREMENTS.
	TD-1	18	Watts Water Technologies, Inc.	Dead Level P	6"(152) wide x 48"(1219) long (standard) UV stabilized glass-filled polypropylene frame, UV stabilized talc-filled polypropylene channels with integral 4"(102) No Hub bottom outlet(s). System shall be frame-anchored, with DI grating to suit DIN Class E load rating with Frame Guards.	6			DUCTILE IRON TO COME WITH A RUST INHIBITIVE COATING.
	US-1	1	EAGLE GROUP	312-12-3-12	HEAVY GAUGE TYPE 304 STAINLESS STEEL SINK BOWLS, DRAINBOARDS, AND BACKSPLASH. FAUCET HOLES PUNCHED ON 8" CENTERS. BASKET-TYPE DRAINS WITH 1-1/2" OUTLET. 1"-DIAMETER CROSSBRACING. 1-5/8" O.D. GALVANIZED TUBULAR LEGS WITH ADJUSTABLE BULLET FEET.	4	3	3	FURNISH WITH 10"-LONG SWIVEL SPOUT FAUCET WITH 8" CENTER, EAGLE GROUP MODEL # 300489.
	WB-1	3	IPS Corporation	MIB1HAAB	WHITE POWDER COATED ICE MAKER OUTLET BOX WITH LEAD FREE HAMMER ARRESTER VALVES.		1.5		BRASS QUARTER TURN HAMMER ARRESTER VALVE, INSTALLED, 1/2" SWEAT CONX.
	WB-2	2	IPS Corporation	MWB13	CENTER DRAIN QUARTER TURN VALVES INSTALLED, 1/2" SWEAT CONNECTION	3	2.25	2.25	FURNISH WITH WATER HAMMER ARRESTOR
	WC-1	6	Zurn Industreis, LLC	Z5665-BWL-1	HET ELONGATED FLOOR MOUNTED, ADA HEIGHT EcoVantage FLUSH VALVE TOILET SYSTEM.	4	10		FURNISH WITH ZURN Z5955SS-EL TOILET SEAT AND SLOAN ROYAL MANUAL FLUSHOMETER, ROYAL 111-1.28-SF WITH BRUSHED STAINLESS STEEL FINISH.

DOMESTIC INDIRECT WATER HEATER SCHEDULE

	ID	Count	Manufacturer	Model	Description	Storage Capacity	Approximate Shipping Weight	Type Comments
	IWH-1	1	Bradford White	SW-80C-5	Commercial PowerStor Series® Single-Wall Indirect Water Heater	67.0 gal	300.00 lb	1" DOMESTIC WATER CONNECTIONS AND 1" HEATING HOT WATER SUPPLY AND RETURN CONNECTIONS.

DOMESTIC WATER HEATER NOTE - CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN A.S.M.E. RATING IF THE FOLLOWING CRITERIA ARE MET FOR SAID WATER HEATER:

- HEAT INPUT OF 200,000 BTU/HR OR GREATER
- WATER TEMPERATURE OF 210 DEGREES FAHRENHEIT OR GREATER
- NOMINAL WATER CAPACITY OF 120 GALLONS OR GREATER

Re-Circulation Pump

	Type Mark	Manufacturer	Model	Motor Power	Voltage	Phase	Frequency	Type Comments
	WHP-1	Taco	008IQSF6-IFC	19 W	115 V	1	60 Hz	TACO SMARTPLUS DOMESTIC HOT WATER RECIRCULATION PUMP WITH AQUASTAT

SUMP PUMP SCHEDULE

	ID	Manufacturer	Model	Description	Design Capacity (GPM)	Design Head (FT)	Rated Full-Load Amps	Motor H.P.	Volts	Phase	Comments
	SP-1	STANCOR	SE40	OIL MINDER ELEVATOR SYSTEM	50	11	5.2	0.4	115	1	SEE NOTES BELOW

NOTES:

1. NEW 2'x2'x2' SUMP PIT IN ELEVATOR PIT (COORDINATE LOCATION WITH ARCHITECT). CONTRACTOR SHALL PROVIDE AND INSTALL STANCOR SE40 OILMINDER SUMP PUMP PER MANUFACTURERS RECOMMENDATIONS.
2. SEE 4/P6.01 FOR DETAIL.

SUMP PUMP CONTROL NOTES:

1. CONTRACTOR SHALL PROVIDE A MOTOR CONTROL PANEL CONTAINING ACROSS-THE-LINE ELECTRIC MOTOR STARTERS WITH AMBIENT COMPENSATED QUICK TRIP OVERLOADS IN EACH PHASE WITH MANUAL TRIP BUTTON AND RESET BUTTON, CIRCUIT BREAKER, CONTROL TRANSFORMER, ELECTRO-MECHANICAL ALTERNATOR, HAND-OFF-AUTOMATIC SELECTOR SWITCHES, PILOT LIGHTS, HIGH WATER ALARM PILOT LIGHT, RESET BUTTON AND ALARM HORN. FURNISH MERCURY SWITCH LIQUID LEVEL CONTROLS, STEEL SHELL SWITCH ENCASED IN POLYURETHANE FOAM WITH CAST IRON WEIGHT ON EACH PUMP. PUMP OFF/COMMON, AND ALARM. HIGH LEVEL ALARM SHALL BE TIED TO THE BUILDING AUTOMATION SYSTEM.
2. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR FOR PLACEMENT OF ALL CONTROL DEVICES, ALARMS AND MONITORS .

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I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, SCOTT A. FRENCK, PE, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF PENNSYLVANIA. ENG. CERT. OF AUTH NO. PE084123 EXP DATE: 9-30-21

CONSULTANT: DEDC ENGINEERING DESIGN CONSULTING

MARION STREET STATION, READING FIRE DEPARTMENT
1201 NORTH 9TH STREET
CITY OF READING, PA 19604

NO.	DESCRIPTION	DATE
1	ADDENDUM #5	08/27/21

PROJECT NUMBER: 20-088
PROJECT SET: BID/PERMIT
DATE ISSUED: 07/09/2021
DRAWING TITLE: PLUMBING SCHEDULES
SHEET NUMBER: P6.01

8/24/2021 2:42:10 PM

FIRE SPRINKLER ROUGH PRESSURE BUDGET

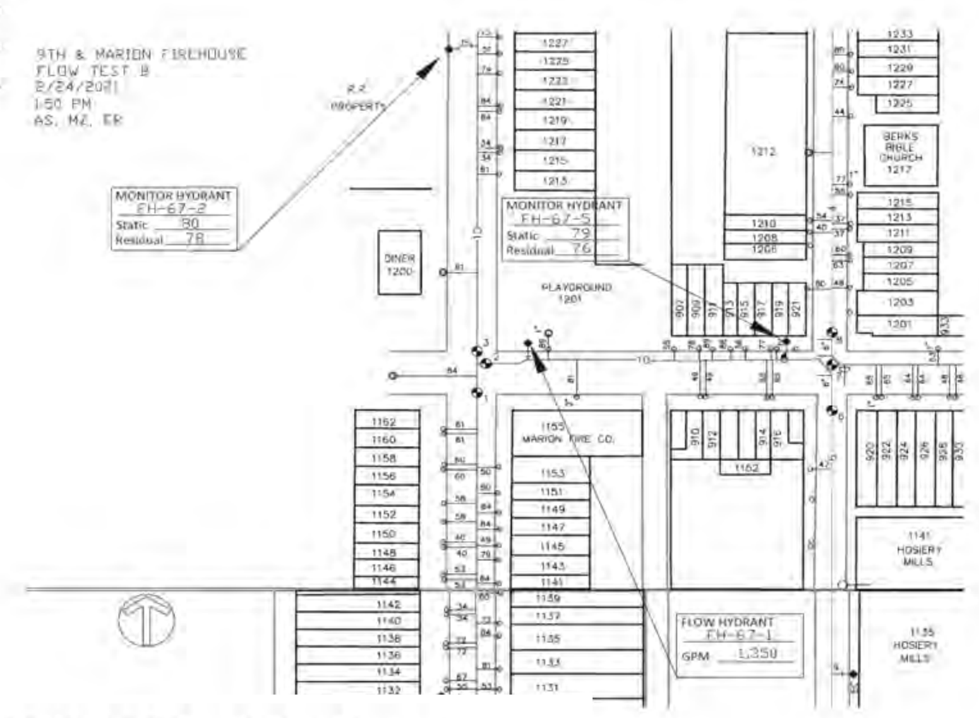
DESIGN CRITERIA	
HAZARD CLASS	Ordinary Hazard 2
DESIGN DENSITY	0.2GPM/SF
DESIGN AREA	1500SF
QUICK RESPONSE SPRINKLERS? If so, enter Design Area percent reduction from NFPA 13 Fig 11.2.3.2.3.1	% reduction
INSIDE/OUTSIDE HOSE ALLOWANCE	250GPM
ADDITIONAL FLOW	192GPM DOMESTIC
SYSTEM INFORMATION	
MAX. AREA / SPRINKLER HEAD (NFPA-13 8.6.2.2)	130SF
# SPRINKLERS IN DESIGN AREA	12
FLOW ESTIMATE	
AVERAGE FLOW / SPRINKLER	29GPM
TOTAL SPRINKLER FLOW	348GPM
Overflow allowance	25%
TOTAL REQUIRED FLOW	**877GPM**
PRESSURE ESTIMATE	
SPRINKLER K FACTOR	5.6
REQ'D ORIFICE PRESSURE	27PSI
WHOLE BLDG SPRINKLER SYSTEM DEMAND	
REQ'D ORIFICE PRESSURE	27PSI
ELEVATION OF HIGHEST SPRINKLER ABOVE SUPPLY	37FT
BACKFLOW PREVENTER PRESSURE DROP	6PSI
PIPING LOSS FROM HYDRANT TO BLDG: TTL FLOW THRU 8" MAIN FOR ~50FT	0.5FT
PIPING LOSS FROM MAIN TO HEADS: 150FT MAIN 6" PIPE @264GPM +100GPM Inside Hose	1FT
PIPING LOSS FROM MAIN TO HEADS: 100FT MAIN 4"PIPE @264GPM +100GPM Inside Hose	3FT
PIPING LOSS FROM MAIN TO HEADS: 200FT MAIN 4" PIPE @264GPM	6FT
PIPING LOSS FROM MAIN TO HEADS: 100FT 2"BRANCH @25GPM	2FT
SAFETY FACTOR	10PSI
TOTAL REQUIRED PRESSURE	**65PSI**

HYDRANT # & LOCATION: 9th / Marion 2B Test DATE: 2/24/2021
TIME OF DAY: 1:50pm MIN. OF FLOW:

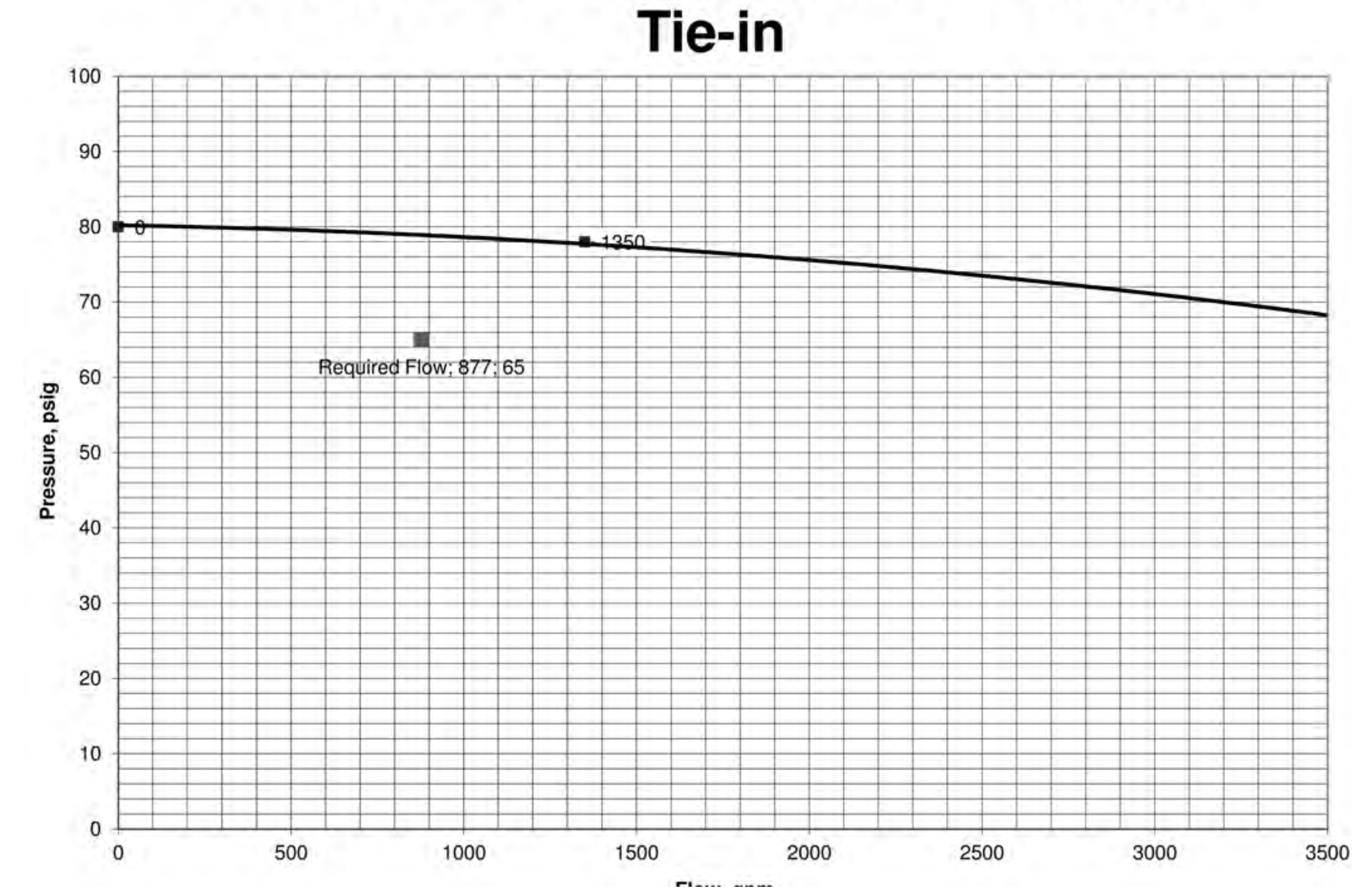
PURPOSE OF TEST: Sprinkler design criteria

DATA

FLOW HYDRANT(S) FH-67-1 A1 MONITOR HYDRANT(S) FH-67-2
SIZE OPENING: 2.5
COEFFICIENT: 0.9
PITOT READING: 64.7
GPM: 1350
TOTAL FLOW DURING TEST: 1350 GPM
STATIC READING: 80 PSI RESIDUAL: 78 PSI
RESULTS: AT 20 PSI RESIDUAL 8470 GPM AT 0 PSI 9893 GPM
ESTIMATED CONSUMPTION: 1350 GAL.
REMARKS:



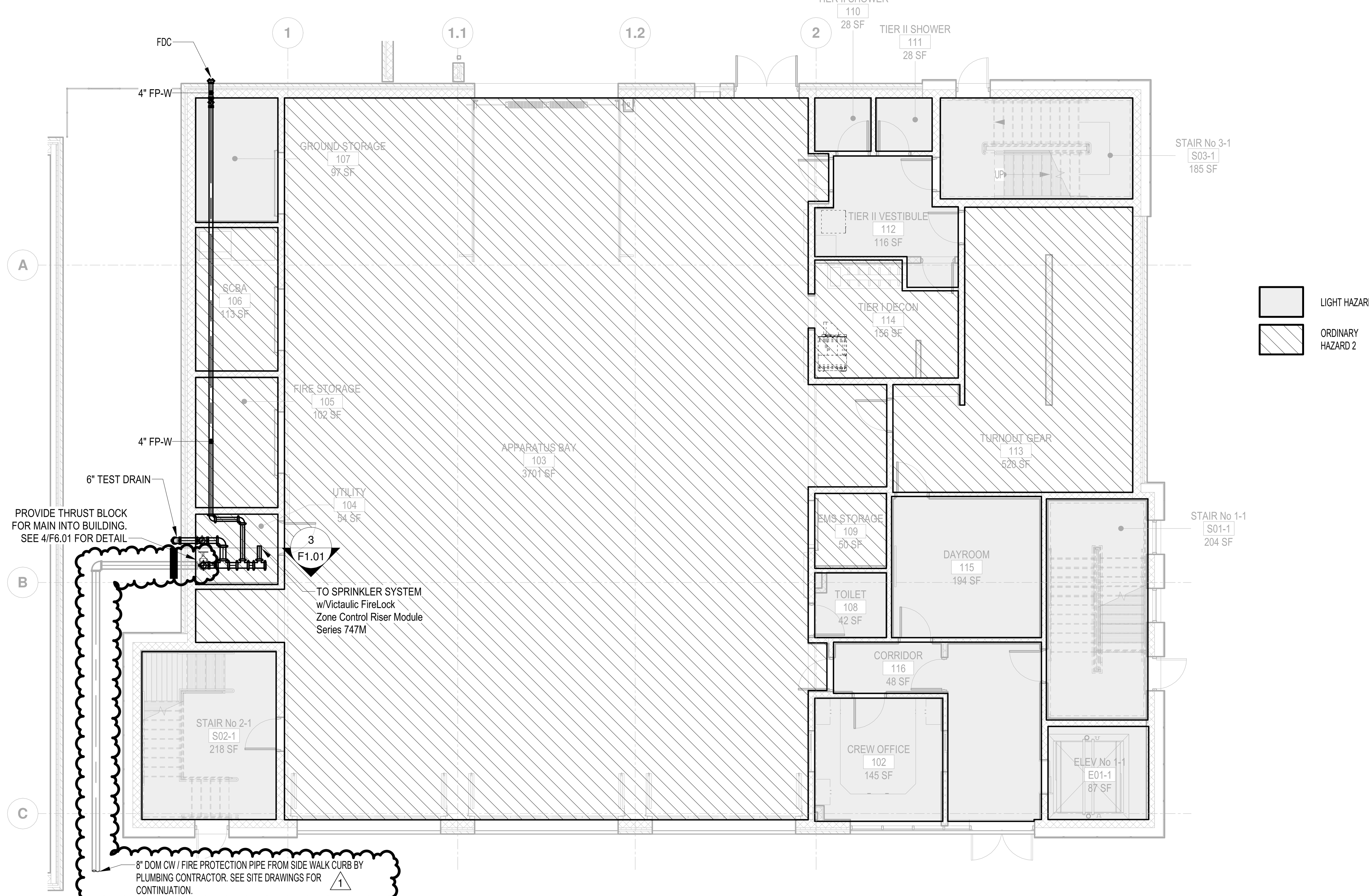
WATER FLOW TEST CHART - Marion Tie-in



2 FIRE PROTECTION PRELIMINARY CALCULATIONS
NOT TO SCALE

AUTOMATIC SPRINKLER SYSTEM DESIGN CRITERIA			
SYMBOL	OCCUPANCY HAZARD CLASSIFICATION	DESIGN DENSITY (GPM/SF)	DESIGN AREA
R	RESIDENTIAL (DWELLING) OCCUPANCY	0.05	701 SF
LH	LIGHT HAZARD OCCUPANCY	0.10	7947 SF
OH1	ORDINARY HAZARD, GROUP 1 OCCUPANCY	0.15	0 SF
OH2	ORDINARY HAZARD, GROUP 2 OCCUPANCY	0.20	6315 SF
EH1	EXTRA HAZARD, GROUP 1 OCCUPANCY	0.30	0 SF
EH2	EXTRA HAZARD, GROUP 2 OCCUPANCY	0.40	0 SF
S	SPECIAL HAZARD OCCUPANCY		

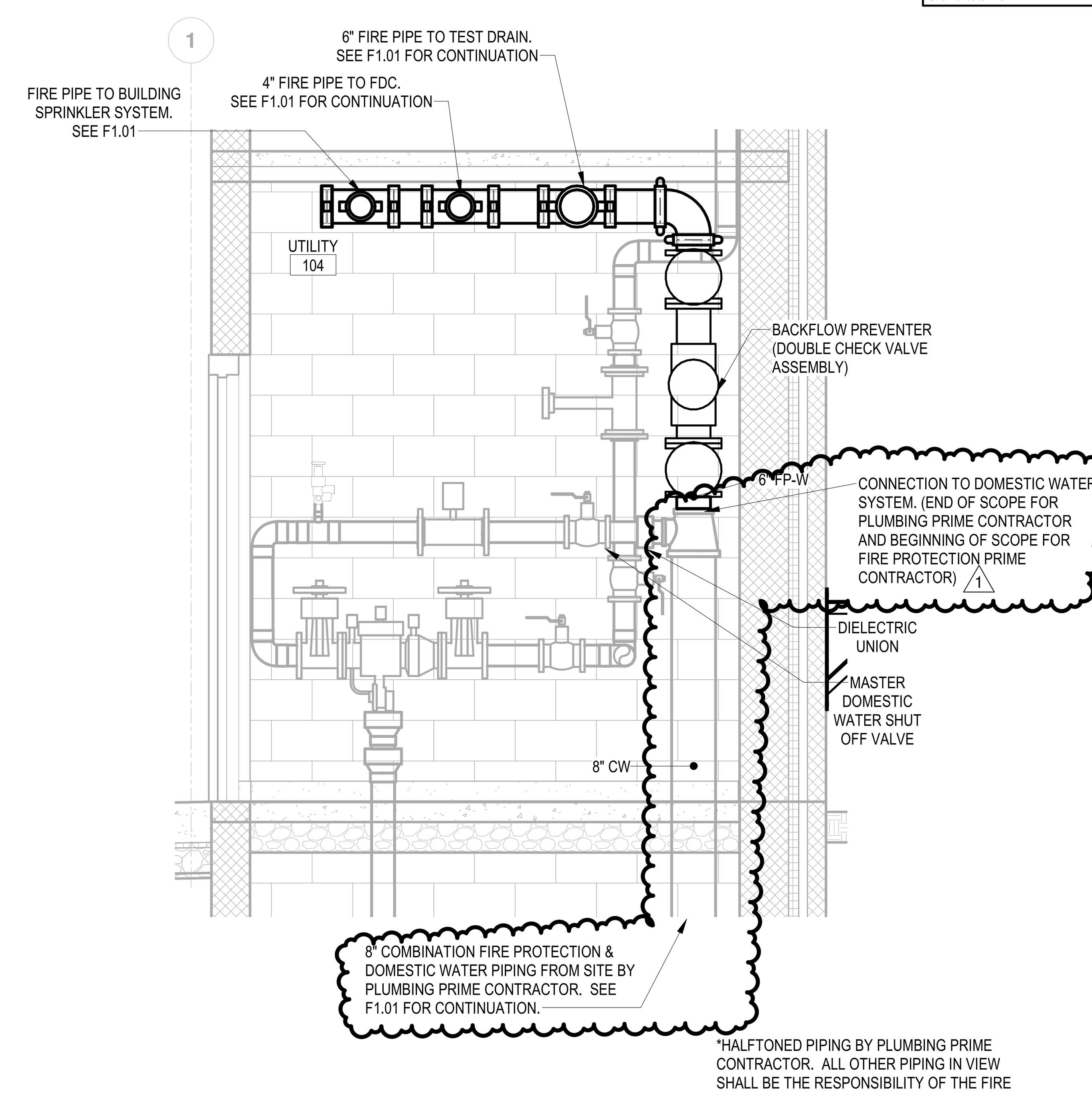
OCCUPANCY HAZARD CLASSIFICATION SCHEDULE			
LOCATION			OCCUPANCY HAZARD
NO.	NAME	AREA	CLASSIFICATION SYMBOL
101	LOBBY	154 SF	LH
102	CREW OFFICE	145 SF	LH
103	APPARATUS BAY	3701 SF	OH2
104	UTILITY	54 SF	OH2
105	FIRE STORAGE	102 SF	OH2
106	SCBA	113 SF	OH2
107	GROUND STORAGE	97 SF	LH
108	TOILET	42 SF	LH
109	EMS STORAGE	50 SF	OH2
110	TIER II SHOWER	28 SF	LH
111	TIER II SHOWER	28 SF	LH
112	TIER II VESTIBULE	116 SF	LH
113	TURNOUT GEAR	520 SF	OH2
114	TIER I DECON	156 SF	OH2
115	DAYROOM	194 SF	LH
116	CORRIDOR	48 SF	LH
200.1	MECHANICAL/ TRAINING MEZZANINE	1173 SF	LH
200.2	POLE MEZZ	136 SF	OH2
200.3	STORAGE	293 SF	LH
201	CORRIDOR	269 SF	LH
202	STUDY	202 SF	LH
203	DAYROOM	549 SF	LH
204	KITCHEN/DINING	850 SF	LH
205	JAN	14 SF	LH
206	T&S	78 SF	LH
207	CORRIDOR	173 SF	OH2
208	T&S	79 SF	LH
209	T&S	79 SF	LH
210	POLE	30 SF	LH
211	CORRIDOR	405 SF	OH2
212	BUNK	120 SF	LH
213	BUNK	117 SF	LH
214	BUNK	117 SF	LH
215	BUNK	117 SF	LH
216	BUNK	117 SF	LH
217	BUNK	112 SF	LH
218	COURTYARD	728 SF	OH2
219.1	POLE	88 SF	LH
219.2	POLE	45 SF	LH
220	LAUNDRY/ JAN	48 SF	OH2
222	BUNK	87 SF	LH
223	T&S	103 SF	LH
224	BATTALION OFFICE	139 SF	LH
225	CORRIDOR	204 SF	OH2
226	CONFERENCE	216 SF	LH
227	IT	33 SF	LH
228	TOILET	48 SF	LH
229	ELEC	38 SF	LH
230	FITNESS	390 SF	LH
E01-1	ELEV No 1-1	87 SF	LH
E01-2	ELEV No 1-2	87 SF	LH
S01-1	STAIR No 1-1	204 SF	LH
S01-2	STAIR No 1-2	212 SF	LH
S01-3	STAIR No 1-3	212 SF	LH
S02-1	STAIR No 2-1	218 SF	LH
S02-2	STAIR No 2-2	220 SF	LH
S02-3	STAIR No 2-3	220 SF	LH
S03-1	STAIR No 3-1	185 SF	LH
S03-2	STAIR No 3-2	188 SF	LH
S03-3	STAIR No 3-3	188 SF	LH
S04	ROOF STAIR	57 SF	LH
Grand total: 61		14826 SF	



LIGHT HAZARD

ORDINARY HAZARD 2

1 FIRST FLOOR - FIRE PROTECTION - FLOOR PLAN
1/8" = 1'-0"



*HALFTONED PIPING BY PLUMBING PRIME CONTRACTOR. ALL OTHER PIPING IN VIEW SHALL BE THE RESPONSIBILITY OF THE FIRE PROTECTION PRIME CONTRACTOR.

3 FIRE PROTECTION ENTRY DETAIL
1/2" = 1'-0"

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CONSULTANT: DEDC LLC ENGINEERING DESIGN CONSULTING

MARION STREET STATION, READING FIRE DEPARTMENT
1201 NORTH 9TH STREET
CITY OF READING, PA 19604

NO.	DESCRIPTION	DATE
1	ADDENDUM #5	08/27/21

PROJECT NUMBER: 20-088

PROJECT SET: BID/PERMIT

DATE ISSUED: 07/09/2021

DRAWING TITLE: FIRST FLOOR FIRE PROTECTION PLAN

SHEET NUMBER: **F1.01**

8/25/2021 12:50:32 PM

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
$	20A, 120-277V AC, SINGLE POLE TOGGLE SWITCH. MH = 48" A.F.F. AS MEASURED TO BOTTOM OF DEVICE BOX.
$3	20A, 120-277V AC, THREE WAY TOGGLE SWITCH. MH = 48" A.F.F. AS MEASURED TO BOTTOM OF DEVICE BOX.
$4	20A, 120-277V AC, FOUR WAY TOGGLE SWITCH. MH = 48" A.F.F. AS MEASURED TO BOTTOM OF DEVICE BOX.
$D	20A, 120V-277V AC, 0-10V DIMMING WALL SWITCH AS MANUFACTURED BY WATTSTOPPER MODEL#LMSW-101. E.C. TO INSTALL PER MANUFACTURERS WRITTEN INSTRUCTIONS. COLOR AS SELECTED BY ARCHITECT.
$DD	24V DC, SINGLE BUTTON DIGITAL DIMMING WALL SWITCH, SWITCH MOUNTING HEIGHT = 48" A.F.F. TO THE TOP OF DEVICE BOX, U.O.N.. SWITCH SHALL BE MODEL NUMBER LMDM-101 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. DIGITAL WALL SWITCH SHALL BE FED BY DIGITAL ROOM CONTROLLER. CABLING BETWEEN CONTROLLER AND DIGITAL WALL SWITCH SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. COLOR AS SELECTED BY ARCHITECT.
$OC1	20A, 120-277V AC, SINGLE BUTTON WALL MOUNT, PASSIVE INFRARED SINGLE RELAY ON/OFF OCCUPANCY SENSOR. SWITCH MOUNTING HEIGHT = 48" A.F.F. TO CENTER OF DEVICE BOX, U.O.N. OCCUPANCY SWITCH SHALL BE #PW-101 AS MANUFACTURED BY WATTSTOPPER.
$OC2	20A, 120-277V AC, TWO BUTTON WALL MOUNT, DUAL TECHNOLOGY (PASSIVE INFRARED AND ULTRASONIC), DUAL RELAY OCCUPANCY SENSOR. SWITCH MOUNTING HEIGHT = 48" A.F.F. TO CENTER OF DEVICE BOX, U.O.N. OCCUPANCY SWITCH SHALL BE #DW-200 AS MANUFACTURED BY WATTSTOPPER.
$OC3	20A, 120-277V AC, SINGLE BUTTON 0-10V DIMMING WALL MOUNT, PASSIVE INFRARED, SINGLE RELAY OCCUPANCY SENSOR. SWITCH MOUNTING HEIGHT = 48" A.F.F. TO CENTER OF DEVICE BOX, U.O.N. OCCUPANCY SWITCH SHALL BE #PW-311 AS MANUFACTURED BY WATTSTOPPER.
$D10	20A, 120-277VAC, 0-10V DIMMING SWITCH AS MANUFACTURED BY WATTSTOPPER MODEL# RH4FBL3PTC. E.C. TO INSTALL PER MANUFACTURERS INSTRUCTIONS. COLOR TO BE SELECTED BY ARHCITECT.
$FC	20A, 120-277VAC, FAN CONTROLLER WALL BOX AS MANUFACTURED BY WATTSTOPPER MODEL# CDSC6-X. E.C. TO INSTALL PER MANUFACTURERS INSTRUCTIONS. COLOR TO BE SELECTED BY ARCHITECT.
$CC	20A, 120-277VAC, RGBW LED LIGHTING CONTROLLER, COLORDIAL PRO AS MANUFACTURED BY COLOR KINETICS OR EQUAL. E.C. SHALL FURNISH AND INSTALL CONTROLLER AND WIRING TO ALL DEVICES.
OC	1000 SQ. FT. COVERAGE CEILING MOUNTED OCCUPANCY SENSOR., 24V DC, DUAL TECHNOLOGY (ULTRASONIC AND PASSIVE INFRARED). SENSOR SHALL BE MODEL NUMBER LMDC-100 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. FINISH SHALL BE SELECTED BY OWNER/ARCHITECT. OCCUPANCY SENSOR SHALL BE FED FROM DIGITAL ROOM CONTROLLER. CABLING BETWEEN CONTROLLER AND OCCUPANCY SENSOR SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS.
OC2	1000 SQ. FT. COVERAGE CEILING MOUNTED EXTENDED RANGE OCCUPANCY SENSOR., 24V DC, PASSIVE INFRARED. SENSOR SHALL BE MODEL NUMBER LMPC-100 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. FINISH SHALL BE SELECTED BY OWNER/ARCHITECT. OCCUPANCY SENSOR SHALL BE FED FROM DIGITAL ROOM CONTROLLER. CABLING BETWEEN CONTROLLER AND OCCUPANCY SENSOR SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS.
OS	1000 SQ. FT. COVERAGE WALL MOUNTED OCCUPANCY SENSOR., 24V DC, PIR TECHNOLOGY (PASSIVE INFRARED). SENSOR SHALL BE MODEL NUMBER LMPX-100 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. OCCUPANCY SENSOR SHALL BE FED FROM DIGITAL ROOM CONTROLLER. CABLING BETWEEN CONTROLLER AND OCCUPANCY SENSOR SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS.
DH	WALL MOUNTED DAYLIGHT HARVESTING DIGITAL CLOSED LOOP SINGLE ZONE PHOTOCELL, 24V DC. SENSOR SHALL BE MODEL NUMBER LMLS-400 WITH WALL MOUNT BRACKET #LMLS-MB2 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. PHOTOCELL SHALL BE FED FROM DIGITAL ROOM CONTROLLER. CABLING BETWEEN CONTROLLER AND PHOTOCELL SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS.
RC1	20A, 120V AC, 60HZ, ON/OFF DIGITAL ROOM CONTROLLER, SINGLE RELAY, UL LISTED, U.O.N. SWITCH SHALL BE MODEL NUMBER LMRC-101 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. CABLING BETWEEN LOW VOLTAGE DEVICES AND DIGITAL ROOM CONTROLLER SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE. ROOM CONTROLLER'S CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER. . EMERGENCY BYPASS CONTROLLER SHALL BE MANUFACTURED BY WATTSTOPPER, MODEL ELCU-200. E.C. SHALL PROVIDE (1) ONE DIGITAL WIRELESS CONFIGURATION TOOL AS MANUFACTURED BY WATTSTOPPER, MODEL LMCT-100. THE DIGITAL CONFIGURATION TOOL SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS.
RCD1	20A, 120V AC, 60HZ, ON/OFF/0-10V DIMMING DIGITAL ROOM CONTROLLER, SINGLE RELAY, UL LISTED, U.O.N. SWITCH SHALL BE MODEL NUMBER LMRC-211 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. CABLING BETWEEN LOW VOLTAGE DEVICES AND DIGITAL ROOM CONTROLLER SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE. ROOM CONTROLLER'S CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER. EMERGENCY BYPASS CONTROLLER SHALL BE MANUFACTURED BY WATTSTOPPER, MODEL ELCU-200. E.C. SHALL PROVIDE (1) ONE DIGITAL WIRELESS CONFIGURATION TOOL AS MANUFACTURED BY WATTSTOPPER, MODEL LMCT-100. THE DIGITAL CONFIGURATION TOOL SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS.
RCD2	20A, 120V AC, 60HZ, ON/OFF/0-10V DIMMING DIGITAL ROOM CONTROLLER, DUAL RELAY, UL LISTED, U.O.N. SWITCH SHALL BE MODEL NUMBER LMRC-212 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. CABLING BETWEEN LOW VOLTAGE DEVICES AND DIGITAL ROOM CONTROLLER SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE. ROOM CONTROLLER'S CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER. EMERGENCY BYPASS CONTROLLER SHALL BE MANUFACTURED BY WATTSTOPPER, MODEL ELCU-200. E.C. SHALL PROVIDE (1) ONE DIGITAL WIRELESS CONFIGURATION TOOL AS MANUFACTURED BY WATTSTOPPER, MODEL LMCT-100. THE DIGITAL CONFIGURATION TOOL SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS.
RCD3	20A, 120V AC, 60HZ, ON/OFF/0-10V DIMMING DIGITAL ROOM CONTROLLER, TRIPLE RELAY, UL LISTED, U.O.N. SWITCH SHALL BE MODEL NUMBER LMRC-213 AS MANUFACTURED BY WATTSTOPPER OR EQUAL. CABLING BETWEEN LOW VOLTAGE DEVICES AND DIGITAL ROOM CONTROLLER SHALL BE CAT-5E CABLE WITH RJ45 CONNECTORS. E.C. SHALL MOUNT DIGITAL ROOM CONTROLLER SECURELY ABOVE DROP CEILING IN ACCESSIBLE SPACE. ROOM CONTROLLER'S CONTROLLING LIGHTING FED FROM EMERGENCY CIRCUITS SHALL BE PROVIDED WITH AN EMERGENCY BYPASS CONTROLLER. EMERGENCY BYPASS CONTROLLER SHALL BE MANUFACTURED BY WATTSTOPPER, MODEL ELCU-200. E.C. SHALL PROVIDE (1) ONE DIGITAL WIRELESS CONFIGURATION TOOL AS MANUFACTURED BY WATTSTOPPER, MODEL LMCT-100. THE DIGITAL CONFIGURATION TOOL SHALL BE USED TO PROGRAM THE DIGITAL ROOM CONTROLLERS. WP = WATERPROOF PROTECTIVE COVER.

SYMBOL	DESCRIPTION
	3 BUTTON OVERHEAD DOOR CONTROLLER
	20A, 120V AC, NEMA 5-20R, DUPLEX RECEPTACLE, SINGLE GANG BOX, TILE RING (DEPTH AS REQUIRED), COVERPLATE. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" AFF TO CENTER OF DEVICE BOX, U.O.N., X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK), T = TAMPER PROOF
GFI	20A, 120V AC, NEMA 5-20R, DUPLEX GROUND FAULT CIRCUIT INTERRUPTER TYPE RECEPTACLE (GFI), SINGLE GANG BOX, TILE RING (DEPTH AS REQUIRED). MOUNTING HEIGHT TO CENTER OF DEVICE = 18" A.F.F., X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK), WP = IN USE WEATHERPROOF COVER.
ISO	20A, 120V AC, NEMA 5-20R, DUPLEX RECEPTACLE, SINGLE GANG BOX, TILE RING (DEPTH AS REQUIRED). MOUNTING HEIGHT TO CENTER OF DEVICE = 18" A.F.F., X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK), ISO = GASKETED STAINLESS STEEL COVERPLATE.
48" GFI ISO	20A, 120V AC, NEMA 5-20R, DUPLEX GROUND FAULT CIRCUIT INTERRUPTER TYPE RECEPTACLE (GFI), SINGLE GANG BOX, TILE RING (DEPTH AS REQUIRED). MOUNTING HEIGHT TO CENTER OF DEVICE = 48" A.F.F, ISO = GASKETED STAINLESS STEEL COVERPLATE
S	20A, 120V AC, NEMA 5-20R, SURFACE MOUNTED DUPLEX RECEPTACLE, 4" SQUARE BOX, CONDUIT STUBBED UP TO EASILY ACCESSIBLE SPACE ABOVE CEILING. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" AFF TO CENTER OF DEVICE BOX, U.O.N., X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK).
U	20A, 120V AC, NEMA 5-20R, DUPLEX RECEPTACLE WITH 3.1 AMP USB CHARGING PORT. MOUNTING HEIGHT TO CENTER OF DEVICE = 18" AFF TO CENTER OF DEVICE BOX, U.O.N., X"= INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK).
	20A, 120V AC, NEMA 5-20R, DOUBLE DUPLEX RECEPTACLE, DOUBLE GANG BOX, TILE RING (DEPTH AS REQUIRED). MOUNTING HEIGHT TO CENTER OF DEVICE = 18" A.F.F., X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK), T = TAMPER PROOF, ISO = GASKETED STAINLESS STEEL COVERPLATE
GFI WP	20A, 120V AC, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER (GFI) TYPE DOUBLE DUPLEX RECEPTACLE, DOUBLE GANG BOX, TILE RING (DEPTH AS REQUIRED). MOUNTING HEIGHT TO CENTER OF DEVICE = 18" A.F.F., X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK), T = TAMPER PROOF WP = IDENTIFIES "IN USE" WEATHERPROOF COVER.
48" S ISO	20A, 120V AC, NEMA 5-20R, SURFACE MOUNTED DOUBLE DUPLEX RECEPTACLE, CONDUIT STUBBED UP TO EASILY ACCESSIBLE SPACE ABOVE CEILING, GASKETED. X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK), PROOF WP = IDENTIFIES "IN USE" WEATHERPROOF COVER, ISO = GASKETED STAINLESS STEEL COVERPLATE
XX-XXR	SPECIAL PURPOSE ELECTRICAL RECEPTACLE. XX-XXR = NEMA CONFIGURATION, X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK).
GFI XX-XXR	ELECTRIC CORD REEL, FED FROM GFCI BRANCH CIRCUIT BREAKER. 20A, 250VAC RATED, YELLOW INDUSTRIAL REEL, UL TYPE 1, 35FT #12/3 SJO CORD, W/ YELLOW FEMALE WATERPROOF SINGLE RECEPTACLE. CORD REEL SHALL BE MODEL #HBLI35123Y WITH RECEPTACLE END #HBL1533 AS MANUFACTURED BY HUBBELL. PROVIDE BALL STOP #HBLI12BS AND PIVOT BASE #HVLI340PB AS MANUFACTURED BY HUBBELL. XX-XXR = NEMA CONFIGURATION.
GFI XX-XXR	ELECTRIC CORD REEL, FED FROM GFCI BRANCH CIRCUIT BREAKER. 30A, 250VAC RATED, YELLOW INDUSTRIAL REEL, UL TYPE 1, #10/3 SJO CORD, W/ YELLOW LOCKING FEMALE WATERPROOF RECEPTACLE. CORD REEL SHALL BE MODEL #HBLI35103Y WITH RECEPTACLE END #HBL2613VY AS MANUFACTURED BY HUBBELL. PROVIDE BALL STOP #HBLI14BS AND PIVOT BASE #HVLI340PB AS MANUFACTURED BY HUBBELL. XX-XXR = NEMA CONFIGURATION.
	CLOCK (TYPE DENOTED)
J	RECESSED JUNCTION BOX, CONDUIT STUBBED UP TO EASILY ACCESSIBLE SPACE ABOVE CEILING. X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK).
J S	SURFACE MOUNTED JUNCTION BOX, RACEWAY STUBBED UP TO EASILY ACCESSIBLE SPACE ABOVE CEILING. X" = INCHES A.F.F. MOUNTING HEIGHT TO CENTER OF DEVICE (COORDINATE WITH MILLWORK)
J	FLOOR/CEILING RECESSED JUNCTION BOX
PB	PULL BOX
	POWER OR DISTRIBUTION PANEL. HIDDEN LINE REPRESENTS ELECTRICAL CLEARANCE SPACE.
	TRANSFORMER (SIZE AS DENOTED). HIDDEN LINE REPRESENTS ELECTRICAL CLEARANCE SPACE.
XX-1	MOTOR
SB	LOW VOLTAGE MOTORIZED BLIND CONTROLLER. DECOFLEX DRY CONTACT KEYPAD SHALL BE ITEM #1811402 AS MANUFACTURED BY HUNTER DOUGLAS.
$M	SINGLE-POLE OR TWO-POLE (AS REQUIRED), 250V AC, 1 HP RATED, TOGGLE TYPE MANUAL MOTOR STARTED UNIT WITH MELTING ALLOY TYPE THERMAL OVERLOAD RELAY, APPROPRIATELY SIZED THERMAL UNITS, NEMA TYPE 1 OR 4 (AS REQUIRED) ENCLOSURE, AND HANDLE GUARD/LOCK-OFF. SQUARE D CLASS 2510 FG OR FW TYPES (AS REQUIRED) OR APPROVED EQUAL. THREE-POLE, 250V AC, 1 OR 2 HP RATED (AS REQUIRED), TOGGLE TYPE MANUAL MOTOR STARTER UNIT WITH MELTING ALLOY TYPE THERMAL OVERLOAD RELAY, APPROPRIATELY SIZED THERMAL UNITS, NEMA TYPE 1 ENCLOSURE AND HANDLE GUARD/LOCK-OFF. SQUARE D CLASS 2510 K TYPE OR APPROVED EQUAL.
#A #AF NEMA#	FUSIBLE SWITCH TYPE COMBINATION STARTER UNIT WITH DOOR MOUNTED H-O-A SWITCH AND RED "MOTOR RUNNING" LED TYPE PILOT LIGHT. PROVIDE AUXILIARY CONTACT. "NEMA #" IDENTIFIES NEMA ENCLOSURE TYPE. "#A" IDENTIFIES DISCONNECT SWITCH AMPACITY RATING. "#AF", IF PRESENT, IDENTIFIES APPROXIMATE FUSE RATING. UNLESS OTHERWISE NOTED, ALL FUSIBLE DISCONNECT SWITCHES SHALL BE COMPLETE WITH APPROPRIATELY SIZED DE, TD, CL, CLASS RK5 FUSES.
#A NEMA#	NON-FUSIBLE DISCONNECT SWITCH. "#A" IDENTIFIES DISCONNECT SWITCH AMPACITY RATING. "NEMA #" IDENTIFIES NEMA ENCLOSURE TYPE.
#A #AF NEMA#	FUSIBLE DISCONNECT SWITCH. "#A" IDENTIFIES DISCONNECT SWITCH AMPACITY RATING. #AF IDENTIFIES DISCONNECT FUSE SIZE. "NEMA #" IDENTIFIES NEMA ENCLOSURE TYPE.
FB1	FLOOR BOX, ON GRADE CONCRETE. MODEL #RFBE
FRPT1	FIRE-RATED POKE-THRU W/ (2) 20A, 120V AC DUPLEX RECEPTACLES, MULTIMEDIA CONNECTIONS & SURFACE COVER. FIRE RATED POKE-THRU SHALL BE MODEL # 8ATC2BK AS MANUFACTURED BY WIREMOLD LEGRAND.
MM	4 GANG WALLBOX. PROVIDE 11"x13"x3 7/8" DEEP WALL BOX, TILE RING (DEPTH AS REQUIRED), STUB-UP (1) 1-1/4" CONDUIT FROM WALL BOX UP TO DATA OUTLET MOUNTED ABOVE BOX AT 72" A.F.F. FURNISH BOX WITH TWO GANGS FOR 5-20R DUPLEX RECEPTACLES, ONE GANG FOR (1) COAX "F" , (1) HDMI AND (2) RJ-45 ETHERNET CONNECTIONS, AND ONE GANG SPARE. MOUNTING HEIGHT TO BOTTOM OF BOX SHALL BE AS COORDINATED WITH ARCHITECTURAL DRAWINGS. WALLBOX MODEL SHALL BE #EFSB4 AS MANUFACTURED BY WIREMOLD LEGRANDE.
WM	4" WIDE STAINLESS STEEL RACEWAY, 20A-120V DUPLEX RECEPTACLE @ EVERY 6" O.C. RACEWAY SHALL BE #DS4000 AS MANUFACTURED BY WIREMOLD LEGRANDE. PROVIDE RACEWAY WIRE DIVIDER FOR COMMUNICATIONS INSTALLATIONS WHERE SHOWN ON DRAWINGS.

SYMBOL	DESCRIPTION
	BUS DUCT WITH PLUG IN DISCONNECT (FUSED)
R	RELAY
	ENCLOSED CIRCUIT BREAKER
	PRESSURE SWITCH
	FLOAT SWITCH
CP	PHOTOCELL
TC	TIME CLOCK. AS SHOWN ON WIRING DIAGRAMS
	TELEPHONE OUTLET CONSISTING OF ONE 4 PORT COVERPLATE, 4" SQUARE BOX, DEVICE PLATE, TILE RING (DEPTH AS REQUIRED), (1) 1-1/4" CONDUIT STUBBED UP INTO THE NEAREST ACCESSIBLE CEILING, POTS LINE TERMINATED AT DEVICE OUTLET AND RAN BACK TO DEMARC BACKBOARD. MOUNTING HEIGHT=18" AFF TO THE CENTER OF DEVICE BOX UNLESS OTHERWISE NOTED. CITY TO FURNISH AND INSTALL HEAD-END EQUIPMENT AND TERMINATIONS AT HEAD-END EQUIPMENT.
	COMBINATION VOICE/DATA OUTLET CONSISTING OF ONE 4 PORT COVERPLATE, 4" SQUARE BOX, TILE RING (DEPTH AS REQUIRED), 1-1/4" CONDUIT STUBBED UP INTO THE NEAREST EASILY ACCESSIBLE CEILING SPACE AND CAT-6 CABLE TERMINATED ON WIRING DEVICE AND INSTALLED BACK TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM. MOUNTING HEIGHT=18" AFF TO THE CENTER OF DEVICE BOX UNLESS OTHERWISE NOTED. E.C. SHALL FURNISH AND INSTALL WIRING DEVICES, DEVICE PLATES, AND WIRE TERMINATED ON WIRING DEVICE. CITY TO FURNISH AND INSTALL HEAD-END EQUIPMENT, TERMINATE AT HEAD-END EQUIPMENT AND PERFORM ALL PROGRAMMING.
48" S	COMBINATION VOICE/DATA OUTLET CONSISTING OF ONE 4 PORT COVERPLATE, SURFACE MOUNTED 4" SQUARE BOX, TILE RING (DEPTH AS REQUIRED), 1-1/4" CONDUIT STUBBED UP INTO THE NEAREST EASILY ACCESSIBLE CEILING SPACE AND CAT-6 CABLE TERMINATED ON WIRING DEVICE AND INSTALLED BACK TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM. MOUNTING HEIGHT=18" AFF TO THE CENTER OF DEVICE BOX UNLESS OTHERWISE NOTED. E.C. SHALL FURNISH AND INSTALL WIRING DEVICES, DEVICE PLATES, AND WIRE TERMINATED ON WIRING DEVICE. CITY TO FURNISH AND INSTALL HEAD-END EQUIPMENT, TERMINATE AT HEAD-END EQUIPMENT AND PERFORM ALL PROGRAMMING.
	WIRELESS ACCESS POINT CONSISTING OF JUNCTION BOX, TILE RING AND CAT-6 WIRE INSTALLED BACK TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM BY E.C. CITY SHALL PROVIDE ALL DEVICES, DEVICE PLATES AND TERMINATIONS ON BOTH ENDS.
TV	TELEVISION OUTLET. PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED), STUB-UP 1 1/4" CONDUIT TO NEAREST ACCESSIBLE SPACE, AND RG-6 CABLE INSTALLED FROM DEMARC TO OUTLET. MOUNTING HEIGHT = 18" A.F.F. TO CENTER OF DEVICE. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DEVICES, DEVICE PLATES, AND COAX CABLE.
S	HORN TYPE SPEAKER
S !	ALERTING SYSTEM VISUAL FHA TROUBLE STROBE LIGHT. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
S R	ALERTING SYSTEM VISUAL FHA RED STROBE LIGHT. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
AS	ALERTING SYSTEM CEILING MOUNTED 8" SPEAKER. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
AS OD	ALERTING SYSTEM CEILING MOUNTED OMNI-DIRECTIONAL SPEAKER. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
BS	ALERTING SYSTEM CEILING MOUNTED BATHROOM SPEAKER. ALERTING SYSTEM RED VISUAL STROBE LIGHT. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
LED	ALERTING SYSTEM CEILING MOUNTED 8" LED LIGHT/SPEAKER. ALERTING SYSTEM RED VISUAL STROBE LIGHT. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
AS	ALERTING SYSTEM WALL MOUNTED SPEAKER. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
RS	ALERTING SYSTEM EXTERIOR WALL RECESS MOUNTED SPEAKER WITH GRILL GUARD. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
ME	ALERTING SYSTEM WALL MOUNTED MEDICAL EMERGENCY BUTTON. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
$3S	ALERTING SYSTEM 3 BUTTON ALERT SELECTOR. ALERTING SYSTEM RED VISUAL STROBE LIGHT. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
$V	ALERTING SYSTEM SPEAKER VOLUME CONTROL STATION. ALERTING SYSTEM RED VISUAL STROBE LIGHT. E.C. SHALL FURNISH AND INSTALL J-BOXES, 3/4" CONDUIT, WIRING DEVICES, DEVICE PLATES, ALL WIRE, TERMINATIONS AND PROGRAMMING. REFER TO "AL" ARCHITECTURAL DRAWING SET FOR SYSTEM SPECIFICATIONS.
M	MICROPHONE OUTLET
	ANTENNA

SYMBOL	DESCRIPTION
ES	ELECTRIC STRIKE, (AS PROVIDED BY SECURITY CONTRACTOR) JUNCTION BOX AT DOOR STRIKE LOCATION.
ML	MAGNETIC LOCK
CL	COMBINATION LOCK
DC	DOOR CONTACTS
CR	BIO-METRIC READER, CONSISTING OF 4" SQUARE JUNCTION BOX AT 48" A.F.F., 120V/24V LOW VOLTAGE TRANSFORMER, TILE RING (DEPTH AS REQUIRED), BIO-METRIC READER (AS PROVIDED BY OWNERS SECURITY CONTRACTOR), JUNCTION BOX OVERTOP OF DOOR JAM, 3/4" CONDUIT CONNECTING JUNCTION BOXES, AND CONDUIT STUBBED UP INTO EASILY ACCESSIBLE CEILING SPACE FROM TOP JUNCTION BOX. REFER TO DRAWING E602 FOR DETAILS. OWNER'S SECURITY VENDOR TO PROVIDE ALL HEAD-END EQUIPMENT, DEVICES, TERMINATIONS AND PROGRAMMING. E.C. SHALL PROVIDE ALL TRANSFORMERS, TILE RINGS, JUNCTION BOXES, CONDUIT, LINE VOLTAGE WIRE, AND LOW-VOLTAGE WIRE INSTALLED FROM WIRING DEVICE BOX TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM.
HS	HAND SWIPE PROXIMITY READER, CONSISTING OF 4" SQUARE JUNCTION BOX AT 48" A.F.F., TILE RING (DEPTH AS REQUIRED), PROXIMITY READER (AS PROVIDED BY OWNERS SECURITY CONTRACTOR), JUNCTION BOX OVERTOP OF DOOR JAM, 3/4" CONDUIT CONNECTING JUNCTION BOXES, AND CONDUIT STUBBED UP INTO EASILY ACCESSIBLE CEILING SPACE FROM TOP JUNCTION BOX. REFER TO DRAWING E602 FOR DETAILS. OWNER'S SECURITY VENDOR TO PROVIDE ALL HEAD-END EQUIPMENT, DEVICES, TERMINATIONS AND PROGRAMMING. E.C. SHALL PROVIDE ALL TRANSFORMERS, TILE RINGS, JUNCTION BOXES, CONDUIT, LINE VOLTAGE WIRE, AND LOW-VOLTAGE WIRE INSTALLED FROM WIRING DEVICE BOX TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM.
	SINGLE BUTTON "PUSH TO ENTER" DEVICE. E.C. SHALL FURNISH AND INSTALL J-BOX AND 3/4" CONDUIT STUBBED UP ABOVE CEILING AND WIRE INSTALLED FROM DEVICE BOX TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM. SECURITY VENDOR TO FURNISH AND INSTALL DEVICES, DEVICE PLATES, TERMINATIONS AND PROGRAMMING.
	KEYPAD
MD	WALL MOUNTED MOTION DETECTOR
MD	CEILING MOUNTED MOTION DETECTOR
E	NURSE CALL EMERG. STATION
B	NURSE CALL CODE BLUE EMERG. STATION
D	NURSE CALL DUTY STATION
S	NURSE CALL STAFF STATION
P 2	NURSE CALL SINGLE PATIENT STATION
P 2	NURSE CALL DUAL PATIENT STATION
N 1	NURSE CALL DOME LIGHT (2 LAMP)
WP	CCTV CAMERA LOCATION, CONSISTING OF 4" SQUARE JUNCTION BOX, CAT-6 CABLE INSTALLED TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM, TILE RING(DEPTH AS REQUIRED), AND 1" CONDUIT STUBBED UP INTO EASILY ACCESSIBLE CEILING SPACE WHEN WALL MOUNTED. ALL HEAD-END EQUIPMENT, DEVICES, DEVICE PLATES, TERMINATIONS AND PROGRAMMING PROVIDED BY SECURITY VENDOR. WP=WEATHERPROOF COVER.
WP	CCTV CAMERA WITH PAN/TILT DRIVE LOCATION, CONSISTING OF 4" SQUARE JUNCTION BOX, CAT-6 CABLE INSTALLED TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM, TILE RING(DEPTH AS REQUIRED), AND 1" CONDUIT STUBBED UP INTO EASILY ACCESSIBLE CEILING SPACE WHEN WALL MOUNTED. ALL HEAD-END EQUIPMENT, DEVICES, DEVICE PLATES, TERMINATIONS AND PROGRAMMING PROVIDED BY SECURITY VENDOR. WP=WEATHERPROOF COVER
360 WP	360 DEGREE CCTV CAMERA DRIVE LOCATION, CONSISTING OF 4" SQUARE JUNCTION BOX, CAT-6 CABLE INSTALLED TO I.T. ROOM WITH 10' SLACK COILED UP IN ROOM, TILE RING(DEPTH AS REQUIRED), AND 1" CONDUIT STUBBED UP INTO EASILY ACCESSIBLE CEILING SPACE WHEN WALL MOUNTED. ALL HEAD-END EQUIPMENT, DEVICES, DEVICE PLATES, TERMINATIONS AND PROGRAMMING PROVIDED BY SECURITY VENDOR. WP=WEATHERPROOF COVER
IC MS	WALL MOUNTED VIDEO DOORBELL MASTER STATION LOCATION. CONSISTING OF 3 GANG JUNCTION BOX. HEAD-END, DEVICE, PROGRAMMING AND TERMINATIONS PROVIDED AND INSTALLED BY SECURITY CONTRACTOR. E.C. SHALL FURNISH AND INSTALL RECESSED 4" SQ. JUNCTION BOX, 3/4" CONDUIT STUBBED UP TO ACCESSIBLE SPACE ABOVE CEILING, AND CABLING RUN TO HEAD-END EQUIPMENT.
IC DS	STAINLESS STEEL WEATHER RESISTANT DOOR STATION LOCATION WITH VIDEO CAMERA. HEAD-END EQUIPMENT, DEVICE, PROGRAMMING AND TERMINATIONS PROVIDED AND INSTALLED BY SECURITY CONTRACTOR. E.C. SHALL FURNISH AND INSTALL RECESSED 4" SQ. JUNCTION BOX, 3/4" CONDUIT STUBBED UP TO ACCESSIBLE SPACE ABOVE CEILING, AND CABLING RUN TO HEAD-END EQUIPMENT.
1	KEYED NOTE (SEE KEYNOTE ON PLAN)
X-#	TYPICAL BRANCH CIRCUITING HOME RUN SYMBOL. GENERALLY, 15A AND 20A BRANCH CIRCUITS CONSISTS OF (2) #12 AWG CU. AND (1) #12 AWG CU. GND. IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. "X" IDENTIFIES PANELBOARD DESIGNATION; "#" IDENTIFIES PANELBOARD CIRCUIT NUMBER.
	LIGHT AND SOLID SYMBOL INDICATES EXISTING TO REMAIN
	DARK AND SOLID SYMBOL INDICATES NEW WORK
	DARK AND DASHED SYMBOL INDICATES DEMOLISHED.
	BELL
	BUZZER
	CHIME
D	DOOR SIGNAL - APT. UNIT
	FIRE ALARM REMOTE ANNUNCIATOR
R	PHOTOVOLTAIC SYSTEM SMOKE DETECTOR, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED), R = ELEVATOR RECALL
	RATE OF RISE SYSTEM HEAT DETECTOR, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED).
S	PHOTOELECTRIC SYSTEM DUCT SMOKE DETECTOR WITH REMOTE TEST STATION
C	FIRE ALARM SYSTEM CARBON MONOXIDE DETECTOR, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED).
C	FIRE ALARM SYSTEM COMBINATION SMOKE/CO DETECTOR. E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED).
F WP	FIRE ALARM WALL MOUNTED STROBE LIGHT. E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED). WP = WEATHERPROOF
F	FIRE ALARM HORN STROBE. E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED). WP=WEATHERPROOF, LF=LOW FREQUENCY
F WP	FIRE ALARM BELL. E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED). WP=WEATHERRPROOF
F P	F.A. PULLSTATION, E.C. SHALL PROVIDE 4" SQUARE DEVICE BOX, TILE RING (DEPTH AS REQUIRED). WP = WEATHERPROOF
	SPRINKLER FLOW SWITCH
	SPRINKLER VALVE TAMPER SWITCH
PF	FIRE PUMP FAIL. FIRE ALARM ADDRESSABLE MODULE
PR	FIRE PUMP PHASE REVERSAL. FIRE ALARM ADDRESSABLE MODULE
R	FIRE PUMP RUN. FIRE ALARM ADDRESSABLE MODULE
FR	FIRE ALARM SHUT-DOWN RELAY

ELECTRICAL ABBREVIATIONS LIST

1P 1 POLE (2P, 3P, 4P, ETC.)
A AMPERE
AC ABOVE COUNTER OR AIR CONDITIONER
ACLG ABOVE CEILING
ADO AUTOMATIC DOOR OPENER
AF AMP FRAME
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AFI ARC FAULT CIRCUIT INTERRUPTER
AHU AIR HANDLING UNIT
AL ALUMINUM
ALT ALTERNATE
AMP AMPERE
AMPL AMPLIFIER
ANNUN ANNUNCIATOR
APPROX APPROXIMATELY
AQ-STAT AQUASTAT
ARCH ARCHITECT, ARCHITECTURAL
AS AMP SWITCH
AT AMP TRIP
ATS AUTOMATIC TRANSFER SWITCH
AUTO AUTOMATIC
AUX AUXILIARY
AV AUDIO VISUAL
AWG AMERICAN WIRE GAUGE
BATT BATTERY
BD BOARD
BLDG BUILDING
BMS BUILDING MANAGEMENT SYSTEM
C CONDUIT
CAB CABINET
CAT CATALOG
CATV CABLE TELEVISION
CB CIRCUIT BREAKER
CCTV CLOSED CIRCUIT TELEVISION
CKT CIRCUIT
CLG CEILING
COMB COMBINATION
CMPR COMPRESSOR
CONN CONNECTION
CONST CONSTRUCTION
CONT CONTINUATION OR CONTINUOUS
CONTR CONTRACTOR
CONV CONVECTOR
CP CIRCULATING PUMP
CRT CATHODE-RAY TUBE
CT CURRENT TRANSFORMER
CTR CENTER
CU COPPER

DCP DOMESTIC WATER CIRCULATING PUMP
DEPT DEPARTMENT
DET DETAIL
DIA DIAMETER
DISC DISCONNECT
DIST DISTRIBUTION
DN DOWN
DPR DAMPER
DS SAFETY DISCONNECT SWITCH
DT DOUBLE THROW
DWG DRAWING
EC ELECTRICAL CONTRACTOR
ELEC ELECTRIC, ELECTRICAL
ELEV ELEVATOR
EM EMERGENCY
EMS ENERGY MANAGEMENT SYSTEM
EMT ELECTRICAL METALLIC TUBING
EP ELECTRIC PNEUMATIC
E.C.P. ELECTRICAL PRIME CONTRACTOR
EQUIP EQUIPMENT
EWC ELECTRIC WATER COOLER
EXIST EXISTING
EXH EXHAUST
EXP EXPLOSION PROOF
FA FIRE ALARM
FABP FIRE ALARM BOOSTER POWER SUPPLY PANEL
FACP FIRE ALARM CONTROL PANEL
FCU FAN COIL UNIT
FIXT FIXTURE
FLR FLOOR
FLUOR FLUORESCENT
FU FUSE
FUDS FUSED SAFETY DISCONNECT SWITCH
GA GAUGE
GAL GALLON
GALV GALVANIZED
GC GENERAL CONTRACTOR
GEN GENERATOR
GFI GROUND FAULT CIRCUIT INTERRUPTER
GFP GROUND FAULT PROTECTOR
GND GROUND
GRS GALVANIZED RIGID STEEL (CONDUIT)
GYP BD GYPSUM BOARD
HOA HANDS-OFF-AUTOMATIC SWITCH
HORIZ HORIZONTAL
HP HORSEPOWER
HPF HIGH POWER FACTOR

HT HEIGHT
HTG HEATING
HTR HEATER
HV HIGH VOLTAGE
HVAC HEATING, VENTILATING AND AIR CONDITIONING
HWP HYDRONIC WATER PUMP
IC INTERRUPTING CAPACITY
IG ISOLATED GROUND
IMC INTERMEDIATE METAL CONDUIT
INCAND INCANDESCENT
IR INFRARED
I/W INTERLOCK WITH
J-BOX JUNCTION BOX
KV KILOVOLT
KVA KILOVOLT-AMPERE
KVAR KILOVOLT-AMPERE REACTIVE
KW KILOWATT
KWH KILOWATT HOUR
LOC LOCATE OR LOCATION
LT LIGHT
LTG LIGHTING
LTNG LIGHTNING
LV LOW VOLTAGE
MAX MAXIMUM
MAG.S MAGNETIC STARTER
M/C MOMENTARY CONTACT
MC MECHANICAL CONTRACTOR
MCB MAIN CIRCUIT BREAKER
MCC MOTOR CONTROL CENTER
MDC MAIN DISTRIBUTION CENTER
MDP MAIN DISTRIBUTION PANEL
MFR MANUFACTURER
MFS MAIN FUSED DISCONNECT SWITCH
MH MANHOLE
MIC MICROPHONE
MIN MINIMUM
MISC MISCELLANEOUS
MLO MAIN LUGS ONLY
MMS MANUAL MOTOR STARTER
MOA MULTIOUTLET ASSEMBLY
MSP MOTOR STARTER PANELBOARD
MSBD MAIN SWITCHBOARD
MT MOUNT
MT.C EMPTY CONDUIT
MTS MANUAL TRANSFER SWITCH
MTR MOTOR, MOTORIZED
N.C. NORMALLY CLOSED
NEC NATIONAL ELECTRICAL CODE

NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFDS NON-FUSED SAFETY DISCONNECT SWITCH
NIC NOT IN CONTRACT
NL NIGHT LIGHT
N.O. NORMALLY OPEN
NPF NORMAL POWER FACTOR
NTS NOT TO SCALE
OH OVERHEAD
OL OVERLOADS
PA PUBLIC ADDRESS
PB PULL BOX OR PUSHBUTTON
PE PNEUMATIC ELECTRIC
PED PEDESTAL
PF POWER FACTOR
PH PHASE
PIV POST INDICATING VALVE
PNL PANEL
PP POWER POLE
PR PAIR
PRI PRIMARY
PROJ PROJECTION
PRV POWER ROOF VENTILATOR
PT POTENTIAL TRANSFORMER
PVC POLYVINYL CHLORIDE (CONDUIT)
PWR POWER
QUAN QUANTITY
RCPT RECEPTACLE
REQD REQUIRED
RM ROOM
RSC RIGID STEEL CONDUIT
RTU ROOF TOP UNIT
SC SURFACE CONDUIT
SEC SECONDARY
SHT SHEET
SIM SIMILAR
S/N SOLID NEUTRAL
SPEC SPECIFICATION
SPKR SPEAKER
SP SPARE
SR SURFACE RACEWAY
SS STAINLESS STEEL
SSW SELECTOR SWITCH
S/S STOP/START PUSHBUTTONS
STA STATION
STD STANDARD
SURF SURFACE MOUNTED
SW SWITCH

WBDS SWITCHBOARD
SYM SYMMETRICAL
SYS SYSTEM
TEL TELEPHONE
TERM TERMINAL
TL TWIST LOCK
TR TAMPER RESISTANT
T-STAT THERMOSTAT
TTC TELEPHONE TERMINAL CABINET
TV TELEVISION
TVTC TELEVISION TERMINAL CABINET
TYP TYPICAL
UC UNDER COUNTER
UE UNDERGROUND ELECTRICAL
UG UNDERGROUND
UH UNIT HEATER
UT UNDERGROUND TELEPHONE
UTIL UTILITY
UV UNIT VENTILATOR OR ULTRAVIOLET
V VOLT
VA VOLT-AMPERES
VDT VIDEO DISPLAY TERMINAL
VERT VERTICAL
VFD VARIABLE FREQUENCY DRIVE
VOL VOLUME
W WATT
W/ WITH
WG WIRE GUARD
WH WATER HEATER
W/O WITHOUT
WP WEATHERPROOF
XFMR TRANSFORMER
XFR TRANSFER
@ AT
' FEET
" INCHES
NUMBER
Ø PHASE
C CENTER LINE
P PLATE

SEISMIC REQUIREMENTS FOR ELECTRICAL SYSTEMS

PER IBC-2015/ASCE 7-10

A. EQUIPMENT, APPLIANCES AND SUPPORTS (INCLUDING ROOF CURBS AND ROOF RAILS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE. WHERE SEISMIC RESTRAINT IS REQUIRED, THE MORE DEMANDING FORCE OF WIND AND SEISMIC MUST BE USED. SEE SEISMIC INFORMATION CONTAINED IN THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN CATEGORY. SEE EQUIPMENT SCHEDULES AND DETAILS FOR SPECIFIC COMPONENT IMPORTANCE FACTOR DESIGNATIONS.
B. USE APPLICABLE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH MECHANICAL COMPONENT.
C. FOR ALL COMPONENTS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL. SUBMITTALS MUST INCLUDE STAMPED AND SIGNED DRAWINGS AND CALCULATIONS.
D. WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED BY THE SEISMIC ENGINEER. DO NOT POUR ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF THE SEISMIC SUBMITTAL.
E. SEISMIC RESTRAINTS FOR CONDUIT, CABLE TRAY AND BUS DUCT MUST BE SHOWN ON LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS.
F. REFER TO ASCE 7-10 FOR SEISMIC INSTALLATION GUIDELINES.

ELECTRICAL COMPONENT IMPORTANCE FACTOR (Ip) DESIGNATION	
Ip = 1.0	Ip = 1.5
• ALL ASSOCIATED ELECTRICAL WORK UNLESS NOTED OTHERWISE	• EMERGENCY LIGHTS • EXIT LIGHTS

SEISMIC DESIGN CATEGORIES D, E, F

	COMPONENT IMPORTANCE FACTOR (Ip)			
	1.0		1.5	
COMPONENT IDENTIFICATION	SEISMIC RESTRAINT REQUIREMENT	NOTES	SEISMIC RESTRAINT REQUIREMENT	NOTES
ROOF MOUNTED	RESTRAIN ALL	1	RESTRAIN ALL	-
FLOOR MOUNTED	RESTRAIN ALL	1,2	RESTRAIN ALL	-
WALL MOUNTED	RESTRAIN ALL	1,2	RESTRAIN ALL	-
COMPONENT SUPPORTS	RESTRAIN ALL	1,2	RESTRAIN ALL	-
SUSPENDED EQUIPMENT	RESTRAIN ALL	1	RESTRAIN ALL	-
SINGLE CONDUIT	>3"	3,4	>1"	3,4
CABLE TRAY/BUS DUCT TRAPEZED CONDUIT	RESTRAIN IF ANY CONDUIT ON TRAPEZE > 3" RESTRAIN IF TOTAL WEIGHT OF SUSPENDED COMPONENT > 10 LBS/FT	4	RESTRAIN IF ANY CONDUIT ON TRAPEZE > 1" RESTRAIN IF TOTAL WEIGHT OF SUSPENDED COMPONENT > 10 LBS/FT	4
COMPONENT CERTIFICATION (SEE NOTE 5)	NOT REQUIRED	-	REQUIRED	-
PENDANT, LAY-IN AND CAN LIGHTS	REQUIRED	-	REQUIRED	6

NOTES:
1. EQUIPMENT 20 LBS. OR LESS IS EXEMPT IF FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT.
2. RESTRAINTS ARE NOT REQUIRED IF THE COMPONENT WEIGHS 400 LBS. OR LESS, IS MOUNTED AT 4' OR LESS ABOVE A FLOOR AND HAS FLEXIBLE CONNECTIONS BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT.
3. ALL NON-DUCTILE PIPING (I.E. PLASTIC) MUST BE RESTRAINED.
4. RESTRAINT IS NOT REQUIRED IF SUSPENDED 12" OR LESS FROM THE STRUCTURE AND THE HANGERS ARE DETAILED TO AVOID SIGNIFICANT BENDING OF THE HANGERS AND THEIR ATTACHMENTS AND PROVISIONS ARE MADE FOR PIPING TO ACCOMMODATE EXPECTED DEFLECTIONS.
5. COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT TIME OF SUBMITTAL FOR REVIEW BY ENGINEER OF RECORD.
6. THE RESTRAINT OF PENDANT, LAY-IN AND CAN LIGHTS IS GOVERNED BY "CISCA-04 FOR SEISMIC ZONES" (CEILINGS AND INTERIOR SYSTEMS CONSTRUCTION ASSOCIATION).

GENERAL ELECTRICAL NOTES

A. E.C. SHALL BE RESPONSIBLE FOR THE FURNISHING AND INSTALLATION OF ALL EQUIPMENT, DEVICES, ACCESSORIES AND THE WIRING OF SAID SYSTEMS, DEVICES, PERIPHERAL ACCESSORIES THAT ARE SHOWN ON THESE DRAWINGS AND THAT ARE SPECIFIED IN THE MULTIPLE CONTRACT SUMMARY, CONTRACT PACKAGE REFERENCE, AND CONTRACT PACKAGE SUPPLEMENTARY INSTRUCTIONS OF THE PROJECT BOOK SPECIFICATIONS, AND MAKING A FULLY COMPLETE AND OPERATIONAL SYSTEM TO THE OWNERS/OWNERS ONSITE REPRESENATIVES FULL SATISFACTION.

B. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN RACEWAY. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE SCHEDULE 40 PVC.

C. E.C. SHALL FURNISH AND INSTALL ALL SYSTEMS, DEVICES, AND PERIPHERAL ACCESSORIES IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS. E.C. SHALL ENSURE ALL SYSTEMS ARE FULLY COMPLETE AND OPERATIONAL TO THE OWNERS' ONSITE REPRESENATIVE'S FULL SATISFACTION.

D. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN METAL RACEWAY. LOW VOLTAGE CABLES MAY BE RUN IN CABLE TRAY WHERE NOTED. LOW VOLTAGE CABLES MAY BE RUN IN CABLE SUPPORT HOOKS ABOVE ACCESSIBLE CEILINGS WHERE NOTED.

E. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ECTRICAL DRAWINGS. SEE ARCHITECTURAL ELEVATIONS FOR LOCATIONS OF ALL ELECTRICAL DEVICES.

F. VERIFY LOCATIONS AND ROUGH-IN REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH-IN WITH ARCHITECTURAL DRAWINGS.

G. CONDUIT AND WIRE SHALL NOT BE INSTALLED BELOW FLOOR SLAB UNLESS OTHERWISE NOTED.

H. FURNISH AND INSTALL CONDUIT FROM BACK BOXES FOR THE FOLLOWING DEVICES INTO THE NEAREST EASILY ACCESSIBLE CEILING SPACE IN THE CORRIDOR, UNLESS NOTED OTHERWISE:
- 1"C TV OUTLETS
- 1 1/4"C TELE/DATA OUTLETS
- 3/4"C FIRE ALARM DEVICES
- (2) 2"C FLOOR BOXES

I. E.C. SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING WIRING FOR ALL OF THE SYSTEMS AND THIER PERIPHERAL DEVICES, FROM DEVICE TO HEAD END LOCATION LISTED IN NOTE J.

J. CCTV, TELE/DATA, WI-FI, CARD ACCESS, CAD ALERTING AND ANTENNA SYSTEMS. E.C. SHALL FURNISH AND INSTALL BACK BOXES AND CONDUIT WITH PULLSTRINGS STUBBED UP ABOVE ACCESSIBLE CEILING SPACE FOR ALL WALL MOUNTED DEVICES. E.C. SHALL COORDINATE ALL LOCATIONS AND HEIGHTS OF DEVICES WITH ARCHITECTURAL DRAWINGS AND OWNER'S VENDORS.

K. ALL HEAD END EQUIPMENT AND LOCAL DEVICE TERMINATIONS FOR CCTV, TELE/DATA, WIFI, ANTENNA SYSTEMS, AND CARD ACCESS SHALL BE FURNISHED AND INSTALLED BY OWNER'S VENDORS.

ALL HEAD END EQUIPMENT AND LOCAL DEVICE TERMINATIONS SHALL BE INSTALLED BY THIRD-PARTY CAD ALERTING VENDOR UNDER ELECTRICAL PRIME SCOPE OF WORK.

ELECTRICAL PRIME CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND INSTALLING ALL ASSOCIATED BOXES, CONDUIT, AND WIRE RUNS AS REQUIRED FOR CAD ALERTING SYSTEM DEVICES, AS ILLUSTRATED ON THE CAD ALERTING SYSTEM DRAWINGS. CAD ALERTING SUBCONTRACTOR TO BE RESPONSIBLE FOR LOCAL DEVICE INSTALLATION, HEAD END TERMINATIONS, AND FINAL NETWORK PROGRAMMING.

L. ALL LIGHTING FIXTURES WITH 0-10V DIMMING DRIVERS SHALL BE FED WITH LUMINAIRY "LED" CABLE WITH PURPLE AND GREY LOW VOLTAGE DIMMING WIRES BUILT INTO CABLE.

M. ALL LIGHTING FIXTURES INSTALLED IN FIRE RATED CEILINGS SHALL BE FURNISHED AND INSTALLED WITH TENMAT OVER FIXTURES TO KEEP ALL FIRE RATINGS AS SPECIFIED BY ARCHITECT FOR TIME PERIODS AS CALLED OUT ON ARCHITECTURAL DRAWINGS. E.C. SHALL COORDINATE ALL FIRE RATED CEILING LOCATIONS WITH ARCHITECTURAL DRAWINGS IN FIELD.

ELECTRICAL DRAWINGS

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SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, SCOTT A. FRENCK, PE, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF PENNSYLVANIA. ENG. CERT. OF AUTH NO. PE084123 EXP DATE: 9-30-21

CONSULTANT:
DEDC LLC
ENGINEERING | DESIGN | CONSULTING

MARION STREET STATION, READING FIRE DEPARTMENT
1201 NORTH 9TH STREET
CITY OF READING, PA 19604

NO.	DESCRIPTION	DATE
1	ADDENDUM #5	08/27/21

PROJECT NUMBER: 20-088
PROJECT SET: BID/PERMIT
DATE ISSUED: 07/09/2021
DRAWING TITLE: ELECTRICAL SYMBOLS AND ABBREVIATIONS
SHEET NUMBER: E0.00

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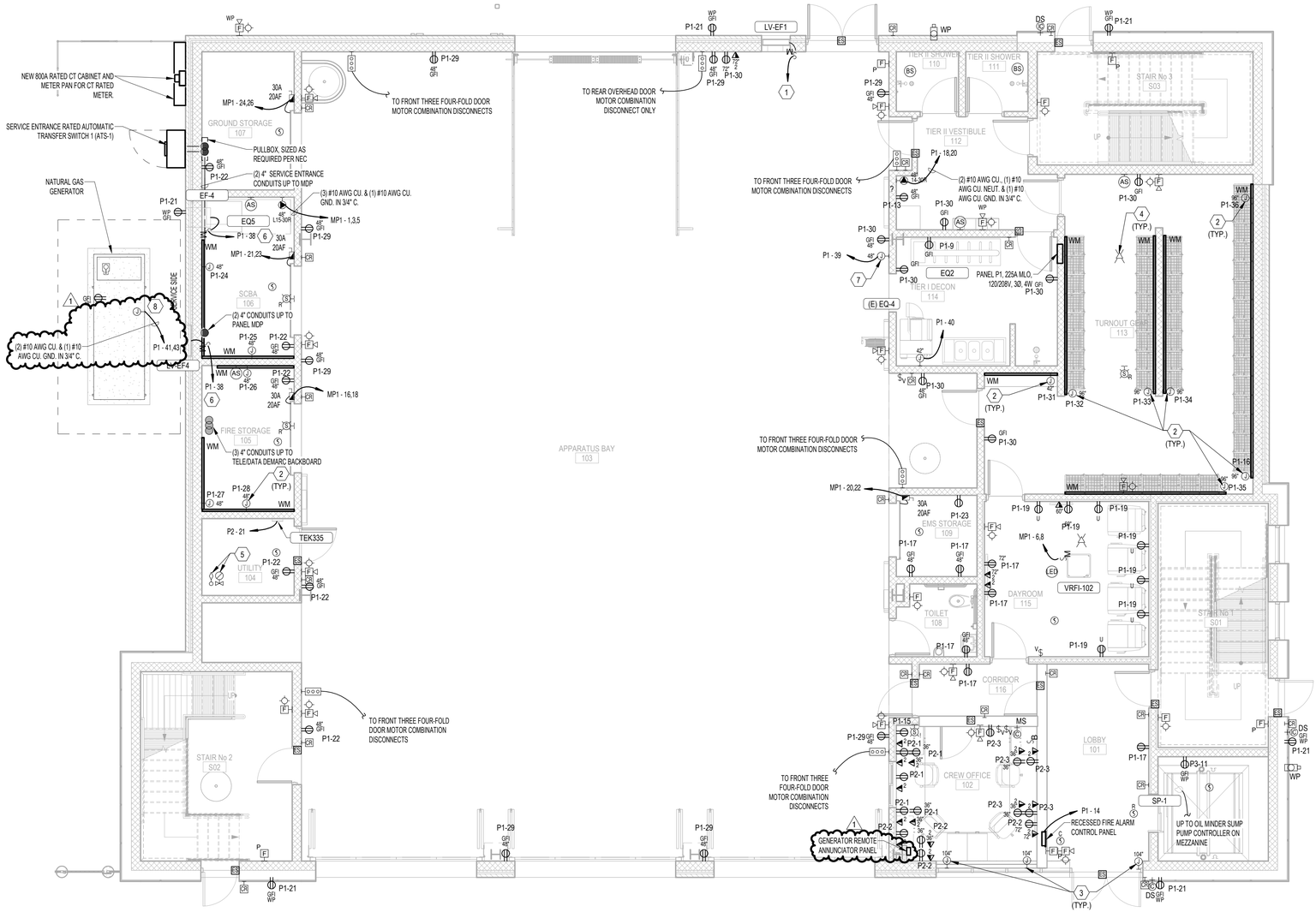

1 FIRST FLOOR POWER PLAN

3/16" = 1'-0"

0 4' 8' 12'

GENERAL POWER NOTES

1. E.C. SHALL COORDINATE ALL DEVICE LOCATIONS IN FIELD WITH ARCHITECTURAL DRAWING AND OWNER'S ONSITE REPRESENTATIVE BEFORE WORK COMMENCES.
2. ALL ITEMS SHOWN DARK AND SOLID REPRESENTS NEW WORK TO BE FURNISHED AND FULLY INSTALLED BY ELECTRICAL CONTRACTOR. ALL ITEMS SHOWN LIGHT AND SOLID REPRESENT EQUIPMENT AND WORK TO BE PERFORMED BY ANOTHER TRADE.
3. ALL RECEPTACLES MOUNTED TO EXTERIOR OF BUILDING SHALL BE INSTALLED SURFACE MOUNTED IN WEATHERPROOF BOX W/ IN USE WEATHERPROOF COVER, CONDUIT AND BRANCH CIRCUIT SHALL BE RUN CONCEALED IN BLOCK WALL. E.C. SHALL PROVIDE A BEAD OF CAULK AROUND THE PERIMETER OF THE BOX WHERE IT MEETS WALL. E.C. SHALL COORDINATE EXACT COLOR OF CAULK WITH ARCHITECT IN FIELD.
4. ALL LOW-VOLTAGE TELE/DATA WIRING, LOW-VOLTAGE WIRING DEVICES, COVERPLATES, HEAD-END EQUIPMENT, DATA RACKS AND OTHER EQUIPMENT ASSOCIATED WITH SECURITY AND TELE/DATA SYSTEMS INSTALLATIONS SHALL BE FURNISHED AND INSTALLED BY OWNER'S IT/SECURITY VENDOR/CONTRACTORS. E.C. SHALL BE RESPONSIBLE FOR INSTALLING J-HOOKS ABOVE CEILING AND CONDUIT STUB-UPS TO ABOVE CEILING FROM WALL MOUNTED LOW-VOLTAGE BOXES. E.C. SHALL FURNISH AND INSTALL CONDUITS WITH PULLSTRINGS.
5. E.C. SHALL FURNISH AND INSTALL ALL ELECTRICAL SYSTEMS AND EQUIPMENT PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. E.C. SHALL FURNISH AND INSTALL ALL ACCESSORY EQUIPMENT REQUIRED, BUT NOT PROVIDED WITH EQUIPMENT, TO MAKE SYSTEMS AND EQUIPMENT FULLY COMPLETE AND 100% OPERATIONAL.
6. ALL RECEPTACLES SHOWN AS GFCI THAT CANNOT BE INSTALLED IN AN EASILY ACCESSIBLE LOCATION FOR RESET FUNCTIONALITY SHALL BE FURNISHED AS A STANDARD RECEPTACLE FED FROM A GFCI TYPE BREAKER.
7. E.C. SHALL REFER TO DRAWING E0.00 FOR LEGEND INFORMATION.
8. E.C. SHALL UTILIZE ROOF CURBS INSTALLED WITH MECHANICAL EQUIPMENT TO RUN ALL ELECTRICAL WIRING TO MECHANICAL EQUIPMENT ON ROOF. E.C. SHALL COORDINATE ALL WORK IN FIELD WITH MECHANICAL CONTRACTOR.
9. ALL PANELBOARDS AND WIRING DEVICES SHOWN ON BLOCK WALLS SHALL BE FURNISHED AND INSTALLED RECESSED FLUSH WITH BLOCK WALL. ALL CONDUITS AND WIRING FEEDING DEVICES SHALL BE INSTALLED IN HOLLOW OF BLOCK WALL. E.C. SHALL COORDINATE ALL WORK WITH MASONS BEFORE CONSTRUCTION COMMENCES.
10. E.C. SHALL FURNISH AND INSTALL ALL ELECTRICAL DISCONNECTS SHOWN DARK AND SOLID ON MECHANICAL EQUIPMENT. ALL MECHANICAL EQUIPMENT SHOWN ON PLANS SHALL BE FURNISHED AND INSTALLED BY MECHANICAL PRIME. E.C. SHALL FURNISH AND INSTALL ALL BRANCH CIRCUITS, CONDUITS, DISCONNECTS AND TERMINATIONS ON EQUIPMENT. E.C. SHALL COORDINATE ALL LOCATIONS IN FIELD WITH MECHANICAL CONTRACTOR PRIOR TO STARTING PROJECT.
11. FOR ALL LOCATIONS SHOWN WHERE A RECEPTACLE AND DATA OUTLET ARE MOUNTED HIGH FOR A MONITOR OR TV E.C. SHALL FURNISH AND INSTALL A RECESSED TELEVISION BOX MODEL #TV2MW AS MANUFACTURED BY WIREMOLD LEGRANDE
12. ALL DEVICES SHOWN CEILING MOUNTED IN KITCHEN/DAYROOM, STUDY AND LOBBY WITH WOOD SLAT CEILINGS SHALL BE INSTALLED ABOVE WOOD SLAT CEILING. E.C. SHALL COORDINATE ALL WORK IN FIELD WITH ARCHITECTURAL DRAWINGS.
13. E.C. SHALL ENSURE ALL LOW-VOLTAGE, DATA, AND COAX CABLE THAT CROSSES ANY EXPOSED CEILING SHALL BE INSTALLED IN EMT.

KEYNOTES

1. E.C. SHALL INTERLOCK EXHAUST FAN 1 LOUVER WITH THE OPERATION OF EXHAUST FAN 1. E.C. SHALL FURNISH AND INSTALL ALL EQUIPMENT REQUIRED TO MAKE CONNECTIONS. E.C. SHALL REFER TO EXHAUST FAN/LOUVER WIRING DIAGRAM ON DRAWING E6.02.
2. E.C. SHALL FURNISH AND INSTALL JUNCTION BOX RECESSED FLUSH WITH FACE OF WALL FOR CONNECTIONS TO WIREMOLD RACEWAY AS SHOWN ON PLANS. E.C. SHALL COORDINATE ALL MOUNTING HEIGHTS AND LOCATIONS IN FIELD WITH ARCHITECTURAL DRAWINGS. E.C. SHALL MOUNT ALL WIREMOLD AT HIEGHTS OF JUNCTION BOXES FEEDING THEM AS SHOWN ON PLANS.
3. E.C. SHALL FURNISH AND INSTALL JUNCTIONS BOXES RECESSED FLUSH WITH FACE OF SURFACE BEING INSTALLED IN FOR POWERING AUTOMATED BLINDS FROM BLIND CONTROL PANELS LOCATED IN ELECTRIC ROOM. E.C. SHALL FURNISH AND INSTALL A BRANCH CIRCUIT CONSISTING OF (4) #14 AWG CU. WIRE IN 1/2" CONDUIT FROM CONTROL PANEL TO EACH MOTOR. EACH MOTOR SHALL HAVE A DEDICATED HOMERUN TO CONTROL PANEL. E.C. SHALL COORDINATE ALL LOCATIONS OF JUNCTION BOXES IN FIELD WITH BLIND LOCATIONS AND ARCHITECTURAL DRAWINGS. E.C. SHALL FURNISH AND INSTALL CAT-5E CABLING FROM CONTROL PANEL TO EACH MOTOR FOR CONTROL OF MOTORS. E.C. SHALL FURNISH ALL CAT-5E CABLE FOR LOW-VOLTAGE CONNECTIONS OF BLIND CONTROL PANELS AND LOW VOLTAGE LOCAL ROOM BLIND CONTROLS. MOTORIZED BLIND CONTROL PANEL SHALL BE ITEM #1811416 (IGCAN1) AS MANUFACTURED BY HUNTERDOUGLAS ARCHITECTURAL. E.C. SHALL REFER TO DRAWING E6.02 FOR MOTORIZED BLIND CONTROL PANEL CONNECTION DIAGRAM FOR MORE INFORMATION FIRST FLOOR BLINDS SHALL BE FED AND CONTROLLED FROM BLIND CONTROL PANEL INSTALLED ON MEZZANINE LEVEL.
4. E.C. SHALL FURNISH AND INSTALL WIRELESS ACCESS POINT ON CEILING. E.C. SHALL COORDINATE ALL LOCATIONS IN FIELD WITH OTHER TRADE'S WORK IN THE AREA.
5. E.C. SHALL WIRE FIRE ALARM FLOW AND TAMPER SWITCHES INTO FIRE ALARM SYSTEM. E.C. SHALL COORDINATE ALL LOCATIONS AND QUANTITIES OF FLOW AND TAMPER SWITCHES IN FIELD WITH SPRINKLER CONTRACTOR.
6. E.C. SHALL REFER TO EF4/LV-EF4 WIRING CONTROL DIAGRAM ON DRAWING E6.02 FOR MORE INFORMATION.
7. E.C. SHALL FURNISH AND INSTALL JUNCTION BOX RECESSED FLUSH WITH FACE OF WALL FOR INSTALLATION OF DISTECH CONTROLLER. E.C. SHALL COORDINATE ALL WORK IN FIELD WITH MECHANICAL CONTRACTOR.
8. E.C. SHALL FEED GENERATOR TERMINAL STRIP FOR POWER TO ALL GENERATOR ACCESSORIES LOCATED IN ENCLOSURE. E.C. SHALL COORDINATE ALL WORK IN FIELD.

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CONSULTANT: DEDC ENGINEERING DESIGN CONSULTING

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PROJECT NUMBER: 20-088
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DATE ISSUED: 07/09/2021
DRAWING TITLE: FIRST FLOOR POWER PLANS
SHEET NUMBER: E3.00

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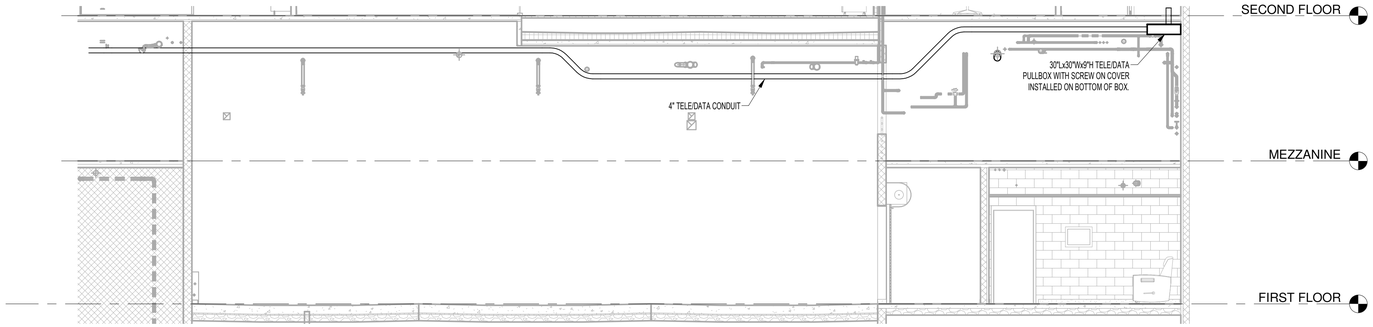
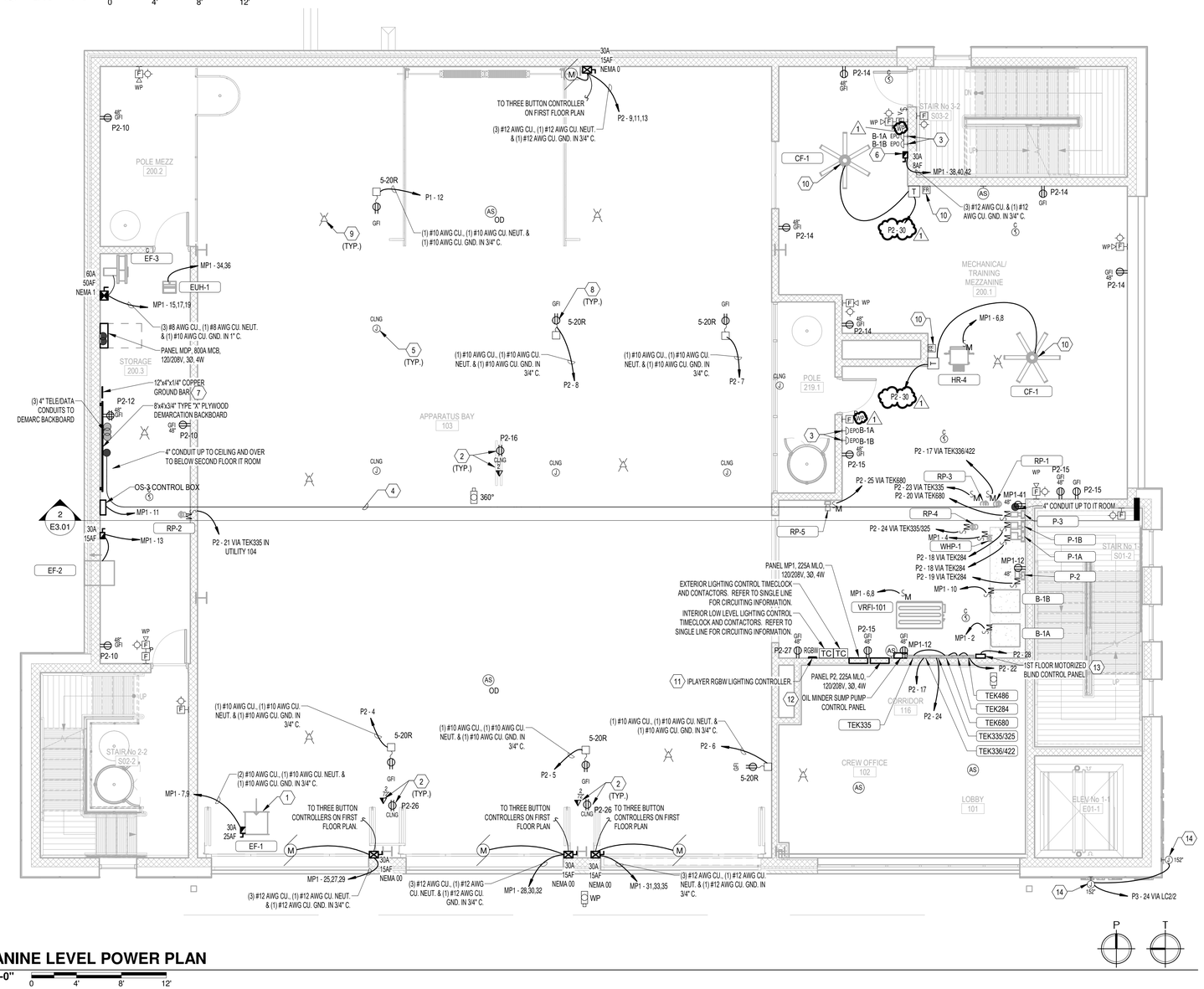


2 TELE/DATA CONDUIT RUN ELEVATION

3/16" = 1'-0"

0 4' 8' 12'



1 MEZZANINE LEVEL POWER PLAN

3/16" = 1'-0"

0 4' 8' 12'

GENERAL POWER NOTES

1. E.C. SHALL COORDINATE ALL DEVICE LOCATIONS IN FIELD WITH ARCHITECTURAL DRAWING AND OWNER'S ONSITE REPRESENTATIVE BEFORE WORK COMMENCES.
2. ALL ITEMS SHOWN DARK AND SOLID REPRESENTS NEW WORK TO BE FURNISHED AND FULLY INSTALLED BY ELECTRICAL CONTRACTOR. ALL ITEMS SHOWN LIGHT AND SOLID REPRESENT EQUIPMENT AND WORK TO BE PERFORMED BY ANOTHER TRADE.
3. ALL RECEPTACLES MOUNTED TO EXTERIOR OF BUILDING SHALL BE INSTALLED SURFACE MOUNTED IN WEATHERPROOF BOX W/ IN USE WEATHERPROOF COVER. CONDUIT AND BRANCH CIRCUIT SHALL BE RUN CONCEALED IN BLOCK WALL. E.C. SHALL PROVIDE A BEAD OF CAULK AROUND THE PERIMETER OF THE BOX WHERE IT MEETS WALL. E.C. SHALL COORDINATE EXACT COLOR OF CAULK WITH ARCHITECT IN FIELD.
4. ALL LOW-VOLTAGE TELE/DATA WIRING, LOW-VOLTAGE WIRING DEVICES, COVERPLATES, HEAD-END EQUIPMENT, DATA RACKS AND OTHER EQUIPMENT ASSOCIATED WITH SECURITY AND TELE/DATA SYSTEMS INSTALLATIONS SHALL BE FURNISHED AND INSTALLED BY OWNER'S IT/SECURITY VENDOR/CONTRACTORS. E.C. SHALL BE RESPONSIBLE FOR INSTALLING J-HOOKS ABOVE CEILING AND CONDUIT STUB-UPS TO ABOVE CEILING FROM WALL MOUNTED LOW-VOLTAGE BOXES. E.C. SHALL FURNISH AND INSTALL CONDUITS WITH PULLSTRINGS.
5. E.C. SHALL FURNISH AND INSTALL ALL ELECTRICAL SYSTEMS AND EQUIPMENT PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. E.C. SHALL FURNISH AND INSTALL ALL ACCESSORY EQUIPMENT REQUIRED, BUT NOT PROVIDED WITH EQUIPMENT, TO MAKE SYSTEMS AND EQUIPMENT FULLY COMPLETE AND 100% OPERATIONAL.
6. ALL RECEPTACLES SHOWN AS GFCI THAT CANNOT BE INSTALLED IN AN EASILY ACCESSIBLE LOCATION FOR RESET FUNCTIONALITY SHALL BE FURNISHED AS A STANDARD RECEPTACLE FED FROM A GFCI TYPE BREAKER.
7. E.C. SHALL REFER TO DRAWING E0.00 FOR LEGEND INFORMATION.
8. E.C. SHALL UTILIZE ROOF CURBS INSTALLED WITH MECHANICAL EQUIPMENT TO RUN ALL ELECTRICAL WIRING TO MECHANICAL EQUIPMENT ON ROOF. E.C. SHALL COORDINATE ALL WORK IN FIELD WITH MECHANICAL CONTRACTOR.
9. ALL PANELBOARDS AND WIRING DEVICES SHOWN ON BLOCK WALLS SHALL BE FURNISHED AND INSTALLED RECESSED FLUSH WITH BLOCK WALL. ALL CONDUITS AND WIRING FEEDING DEVICES SHALL BE INSTALLED IN HOLLOW OF BLOCK WALL. E.C. SHALL COORDINATE ALL WORK WITH MASONS BEFORE CONSTRUCTION COMMENCES.
10. E.C. SHALL FURNISH AND INSTALL ALL ELECTRICAL DISCONNECTS SHOWN DARK AND SOLID ON MECHANICAL EQUIPMENT. ALL MECHANICAL EQUIPMENT SHOWN ON PLANS SHALL BE FURNISHED AND INSTALLED BY MECHANICAL PRIME. E.C. SHALL FURNISH AND INSTALL ALL BRANCH CIRCUITS, CONDUITS, DISCONNECTS AND TERMINATIONS ON EQUIPMENT. E.C. SHALL COORDINATE ALL LOCATIONS IN FIELD WITH MECHANICAL CONTRACTOR PRIOR TO STARTING PROJECT.
11. FOR ALL LOCATIONS SHOWN WHERE A RECEPTACLE AND DATA OUTLET ARE MOUNTED HIGH FOR A MONITOR OR TV E.C. SHALL FURNISH AND INSTALL A RECESSED TELEVISION BOX MODEL #TV2MW AS MANUFACTURED BY WIREMOLD LEGRANDE
12. ALL DEVICES SHOWN CEILING MOUNTED IN KITCHEN/DAYROOM, STUDY AND LOBBY WITH WOOD SLAT CEILINGS SHALL BE INSTALLED ABOVE WOOD SLAT CEILING. E.C. SHALL COORDINATE ALL WORK IN FIELD WITH ARCHITECTURAL DRAWINGS.
13. E.C. SHALL ENSURE ALL LOW-VOLTAGE, DATA, AND COAX CABLE THAT CROSSES ANY EXPOSED CEILING SHALL BE INSTALLED IN EMT.

KEYNOTES

1. E.C. SHALL INTERLOCK EXHAUST FAN 1 LOUVER WITH THE OPERATION OF EXHAUST FAN 1. E.C. SHALL FURNISH AND INSTALL ALL EQUIPMENT REQUIRED TO MAKE CONNECTIONS. E.C. SHALL REFER TO EXHAUST FAN/LOUVER WIRING DIAGRAM ON DRAWING E7.00.
2. E.C. SHALL FURNISH AND INSTALL BOXES FOR DATA AND POWER OUTLETS AT BASE OF MONITOR DISPLAY HANGERS. E.C. SHALL COORDINATE ALL WORK AND LOCATIONS IN FIELD WITH MONITOR DISPLAY INSTALLATION CONTRACTOR. TYPICAL FOR ALL PENDANT DISPLAY MONITORS.
3. E.C. SHALL FURNISH AND INSTALL IN THE POWER CIRCUIT OF EACH BOILER 1 AND 2 AN EMERGENCY POWER OFF BUTTON AT THE EXIT LOCATIONS OF THE MEZZANINE LEVEL AS SHOWN. E.C. SHALL INSTALL EPO BUTTON PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PER AHJ REQUIREMENTS.
4. E.C. SHALL RUN A 4" CONDUIT WITH (3) 1" INNER DUCTS WITH PULLSTRINGS FROM MAIN TELE/DATA DEMARC BACKBOARD LOCATED ON MEZZANINE LEVEL STORAGE ROOM 200.3 OVER ALONG MEZZANINE CEILING AND THEN POP-UP INTO SECOND FLOOR IT/DATA ROOM. E.C. SHALL FURNISH AND INSTALL A CONDUIT SLEEVE THROUGH SECOND FLOOR FROM MEZZANINE LEVEL AND FIRE CAULK IN BETWEEN CONDUIT INSIDE OF SLEEVE WITH APPROVED FIRE CAULK. E.C. SHALL UTILIZE FIRE CAULK AROUND PIPE SLEEVE AND FLOOR BEING PENETRATED.
5. E.C. SHALL FURNISH AND INSTALL JUNCTION BOXES ON STEEL STRUCTURE AT MEZZANINE LEVEL FOR FUTURE USE. E.C. SHALL FURNISH AND INSTALL 3/4" CONDUIT WITH PULLSTRINGS TO EACH JUNCTION BOX SHOWN CEILING MOUNTED OVER APPARATUS BAY (TYPICAL OF 6).
6. E.C. SHALL FURNISH AND INSTALL 30A, 3 POLE FUSED DISCONNECT FOR POWER TO GANTRY CRANE MOTOR. E.C. SHALL COORDINATE EXACT LOCATION OF FUSED DISCONNECT IN FIELD WITH GANTRY TRANE INSTALLATION CONTRACTOR PRIOR TO INSTALLING FUSED DISCONNECT.
7. E.C. SHALL FURNISH AND INSTALL GROUND BAR ON WALL ADJACENT TO TELE/DATA DEMARCATION BACKBOARD AND SHALL PROVIDE BARE #4 CU. WIRE GROUNDED TO BUILDING STEEL. ALL TELE/DATA CONDUITS AND TELE/DATA EQUIPMENT SHALL BE GROUNDED TO TELE/DATA GROUND BAR. E.C. SHALL COORDINATE ALL WORK IN FIELD WITH TELE/DATA CONTRACTOR.
8. E.C. SHALL FURNISH AND INSTALL ELECTRIC CORD REEL SECURELY TO BUILDING STRUCTURE. E.C. SHALL FURNISH AND CONFIGURE BALLSTOP FOR PROPER USAGE AND LET DOWN OF ELECTRICAL CORD FROM REEL.
9. E.C. SHALL FURNISH AND INSTALL WIRELESS ACCESS POINT ON APPARATUS BAY CEILING. E.C. SHALL COORDINATE ALL LOCATIONS IN FIELD WITH OTHER TRADE'S WORK IN THE AREA.
10. E.C. SHALL WIRE CEILING FANS FROM FAN CONTROLLER ON WALL AS SHOWN. E.C. SHALL CONNECT CEILING FAN WIRING TO A 15A, 120V RATED FIRE ALARM CONTROL MODULE FOR AUTOMATIC SHUTDOWN OF CEILING FANS IN A BUILDING SYSTEM FIRE ALARM ACTIVATION EVENT. E.C. SHALL COORDINATE ALL FIRE ALARM WORK IN FIELD WITH FIRE ALARM CONTRACTOR.
11. E.C. SHALL FURNISH AND INSTALL IPLAYER RGBW CONTROLLER ON MEZZANINE LEVEL MOUNTED ABOVE TIMECLOCK. E.C. SHALL PROVIDE ALL COMMISSIONING OF RGBW CONTROLLER AND LIGHTING FIXTURES BY A FACTORY AUTHORIZED COMMISSIONING AGENT. E.C. SHALL PROVIDE ALL CAT-5E CABLING AND 6 BUTTON RGBW LOCAL CONTROL DEVICES AS SHOWN ON PLANS.
12. E.C. SHALL FURNISH AND INSTALL A 4" CONDUIT FROM MEZZANINE LEVEL DOWN TO ELEVATOR SUMP PUMP LOCATION FOR SUMP PUMP WIRING. E.C. SHALL COORDINATE ALL WORK AND LOCATIONS IN FIELD WITH MECHANICAL CONTRACTOR PRIOR TO COMMENCING WORK.
13. E.C. SHALL FURNISH AND INSTALL MOTORIZED BLIND CONTROL PANEL ON MEZZANINE LEVEL FOR POWER AND CONTROL OF FIRST FLOOR CREW OFFICE AND LOBBY MOTORIZED BLINDS. E.C. SHALL COORDINATE ALL WORK IN FIELD. MOTORIZED BLIND CONTROL PANEL SHALL BE ITEM #1811416 (IGC4N1) AS MANUFACTURED BY HUNTERDOUGLAS ARCHITECTURAL. E.C. SHALL REFER TO DRAWING E6.02 FOR MOTORIZED BLIND CONTROL PANEL CONNECTION DIAGRAM FOR MORE INFORMATION.
14. E.C. SHALL COORDINATE EXACT HEIGHT OF JUNCTION BOXES WITH ARCHITECTURAL DRAWINGS. E.C. SHALL FURNISH AND INSTALL JUNCTION BOXES FLUSH WITH FACE OF WALL IN LOCATIONS AS COORDINATED WITH SIGNAGE VENDOR. E.C. SHALL RUN ALL CONDUIT INSIDE OF BLOCK WALLS TO MAKE CONNECTIONS TO BUILDING SIGNAGE.

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SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, SCOTT A. FRENCK, PE, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF PENNSYLVANIA. ENG. CERT. OF AUTH NO. PE084123 EXP DATE: 9-30-21

CONSULTANT: DEDC ENGINEERING DESIGN CONSULTING

MARION STREET STATION, READING FIRE DEPARTMENT
1201 NORTH 9TH STREET
CITY OF READING, PA 19604

NO.	DESCRIPTION	DATE
1	ADDENDUM #5	08/27/2 1

PROJECT NUMBER: 20-088

PROJECT SET: BID/PERMIT

DATE ISSUED: 07/09/2021

DRAWING TITLE: MEZZANINE LEVEL POWER PLANS

SHEET NUMBER: E3.01

8/24/2021 5:49:33 PM

Panel: P1

Location: TIER I DECON 114 | Volts: 208Y/120 | A.I.C. Rating: 10kA
Supply From: MDP | Phases: 3 | Mains Type: MLO
Mounting: Flush | Wires: 4 | Mains Rating: 225.0 A
Enclosure: Indoor | | MCB Rating: 225.0 A

Notes:

Circuit Description	Trip	Circuit Number	Number of Poles	Number of Poles	Circuit Number	Trip	Circuit Description
LTG - EXTERIOR, FLAG POLE	20 A	1	1	1	2	20 A	LTG - STAIR No 1-1 S01-1
LTG - STAIR 3-1	20 A	3	1	1	4	20 A	LTG - STAIR 2-1
LTG - 110,111, 113, 115, 109, 116, 112, 104, 105, 106	20 A	5	1	1	6	20 A	LTG - APPARATUS BAY 103
LTG - RGBW APPARATUS BAY 103	20 A	7	1	1	8	20 A	LTG - 219.1, 200.1, 200.3, 200.2
REC - RAM AIR GEAR DRYER	15 A	9	1	1	10	20 A	LTG - APPARATUS BAY 103
LTG - CREW OFFICE 102, LOBBY	20 A	11	1	1	12	30 A	REC - CORD REEL ***
REC - WASHER MACHINE	20 A	13	1	1	14	20 A	FIRE ALARM CONTROL PANEL **
REC - CREW OFFICE 102 COPIER	20 A	15	1	1	16	20 A	REC - WIREMOLD PLUGSTRIP RM 113
REC - ROOMS 109, 108, 115, 116, 101	20 A	17	1	2	18	30 A	DRYER (EQ-7)(5KW)
REC - ROOM 115	20 A	19	1		20		
REC - EXTERIOR CONVENIENCE	20 A	21	1	1	22	20 A	REC - APPARATUS BAY, FIRE STORAGE, SCBA,...
REC - REFRIGERATOR	20 A	23	1	1	24	20 A	REC - WIREMOLD PLUGSTRIP
REC - WIREMOLD PLUGSTRIP	20 A	25	1	1	26	20 A	REC - WIREMOLD PLUGSTRIP
REC - WIREMOLD PLUGSTRIP	20 A	27	1	1	28	20 A	REC - WIREMOLD PLUGSTRIP
REC - APPARATUS BAY 103	20 A	29	1	1	30	20 A	REC - ROOMS 103, 114, 112, 113
REC - WIREMOLD PLUGSTRIP RM 113	20 A	31	1	1	32	20 A	REC - WIREMOLD PLUGSTRIP RM 113
REC - WIREMOLD PLUGSTRIP RM 113	20 A	33	1	1	34	20 A	REC - WIREMOLD PLUGSTRIP RM 113
REC - WIREMOLD PLUGSTRIP RM 113	20 A	35	1	1	36	20 A	REC - WIREMOLD PLUGSTRIP RM 113
LTG - RELOCATED FIXTURES	20 A	37	1	1	38	15 A	EXHAUST FAN 4 (EF-4), LV-EF4
DISTECH CONTROLLER	15 A	39	1	1	40	15 A	EXTRACTION MACHINE
GENERATOR TERMINAL STRIP	30 A	41	2	1	42	20 A	SPARE
		43		1	44	20 A	SPARE
SPARE	20 A	45	1	1	46	20 A	SPARE
SPARE	20 A	47	1	1	48	20 A	SPARE
SPARE	20 A	49	1	1	50	20 A	SPARE
SPARE	20 A	51	1	1	52	20 A	SPARE
SPARE	20 A	53	1	1	54	20 A	SPARE

Notes:
** = FURNISH AND INSTALL CIRCUIT BREAKER WITH "LOCKABLE IN THE ON POSITION" HANDLE ATTACHMENT.
*** = FURNISH GFCI TYPE CIRCUIT BREAKER IN THIS POSITION.

Panel: P2

Location: MECHANICAL/ TRAINING... | Volts: 208Y/120 | A.I.C. Rating: 10kA
Supply From: MDP | Phases: 3 | Mains Type: MLO
Mounting: Flush | Wires: 4 | Mains Rating: 225.0 A
Enclosure: Indoor | | MCB Rating: 225.0 A

Notes:

Circuit Description	Trip	Circuit Number	Number of Poles	Number of Poles	Circuit Number	Trip	Circuit Description
REC - CREW OFFICE 102	20 A	1	1	1	2	20 A	REC - CREW OFFICE 102
REC - CREW OFFICE 102	20 A	3	1	1	4	30 A	REC - CORD REEL ***
*** REC - CORD REEL	30 A	5	1	1	6	30 A	REC - CORD REEL ***
*** REC - CORD REEL	30 A	7	1	1	8	30 A	REC - CORD REEL ***
OVERHEAD DOOR MOTOR (1HP)	20 A	9	3	1	10	20 A	REC - ROOMS 200.3, 200.2, 103 CAD MONITORS
		11		1	12	20 A	REC - STORAGE 200.3 DEMARC
		13		1	14	20 A	REC - MECHANICAL/ TRAINING MEZZANINE 200.1
REC - MECHANICAL/ TRAINING MEZZANINE 200.1	20 A	15	1	1	16	20 A	REC - APPARATUS BAY 103 CAD MONITOR
RADIANT HEAT PUMP (RP-1)	15 A	17	1	1	18	15 A	PUMP 1A/1B (P-1A,P-1B)
PUMP 2 (P-2)	15 A	19	1	1	20	15 A	PUMP 3 (P-3)
RADIANT HEAT PUMP 2 (RP-2)	15 A	21	1	1	22	15 A	TEK CONTROL PANELS
RADIANT HEAT PUMP 3 (RP-3)	15 A	23	1	1	24	15 A	RADIANT HEAT PUMP 4 (RP-4)
RADIANT HEAT PUMP 5 (RP-5)	15 A	25	1	1	26	20 A	REC - APPARATUS BAY 103 CAD MONITOR
REC - IPLAYER MEZZANINE	15 A	27	1	1	28	20 A	MOTORIZED BLIND CONTROL PANEL
REC - IPLAYER RGBW CONTROLLER	20 A	29	1	1	30	20 A	CEILING FAN 1 (CF-1)
SPARE	20 A	31	1	1	32	20 A	SPARE
SPARE	20 A	33	1	1	34	20 A	SPARE
SPARE	20 A	35	1	1	36	20 A	SPARE
SPARE	20 A	37	1	1	38	20 A	SPARE
SPARE	20 A	39	1	1	40	20 A	SPARE
SPARE	20 A	41	1	1	42	20 A	SPARE
SPARE	20 A	43	1	1	44	20 A	SPARE
SPARE	20 A	45	1	1	46	20 A	SPARE
SPARE	20 A	47	1	1	48	20 A	SPARE
SPARE	20 A	49	1	1	50	20 A	SPARE
SPARE	20 A	51	1	1	52	20 A	SPARE
SPARE	20 A	53	1	1	54	20 A	SPARE

Notes:
*** = FURNISH GFCI TYPE CIRCUIT BREAKER IN THIS POSITION.

Panel: P3

Location: ELEC 229 | Volts: 208Y/120 | A.I.C. Rating: 10kA
Supply From: MDP | Phases: 3 | Mains Type: MLO
Mounting: Flush | Wires: 4 | Mains Rating: 225.0 A
Enclosure: Indoor | | MCB Rating: 225.0 A

Notes:

Circuit Description	Trip	Circuit Number	Number of Poles	Number of Poles	Circuit Number	Trip	Circuit Description
DOAS-1	80 A	1	3	3	2	70 A	ODU-1A
		3			4		
		5			6		
REC - ROOF CONVENIENCE	20 A	7	1	1	8	20 A	LTG - CORRIDORS 211, 207 *
KITCHEN EXHAUST FAN 1 (KEF-1)	15 A	9	1	1	10	20 A	LTG - CORRIDOR 211, 207 *
REC & LTG - ELEVATOR SHAFT	20 A	11	1	1	12	20 A	LTG & REC - T&S 209 *
* LTG & REC - T&S 208	20 A	13	1	1	14	20 A	LTG & REC - T&S 206 *
* LTG & REC - T&S 223	20 A	15	1	1	16	20 A	LTG - OFFICE, CONFERENCE RM, BUNKS, POLES
LTG - CORRIDOR 201, KITCHEN 204, STUDY 202,...	20 A	17	1	1	18	20 A	LTG - ROOMS RGBW 204, 202, 201
KITCHEN EXHAUST HOOD	20 A	19	1	1	20	20 A	REC - OVEN
GARBAGE DISPOSAL (3/4HP)	20 A	21	1	1	22	20 A	LTG - COURTYARD, ROOF
VRFI ROOMS 224, 201, 202, 212, 214, 215, 216, 217, 226, 211, 230, 219.2	15 A	23	2	1	24	20 A	LTG - BUILDING SIGNAGE
		25		1	26	20 A	REC - STUDY 202
DISHWASHER	20 A	27	1	1	28	20 A	REC -IT 227
REC - IT 227	20 A	29	1	1	30	30 A	REC - DATA RACK IT 227
REC - WASHER MACHINE	20 A	31	1	1	32	20 A	REC - BATTALION OFFICE 224
REC - BATTALION OFFICE 224	20 A	33	1	1	34	20 A	REC - TOILET 228 *
REC - CONFERENCE ROOM 226	20 A	35	1	1	36	20 A	REC - CONFERENCE ROOM 226
LTG - ELEVATOR CAB	15 A	37	1	3	38	40 A	ODU-1B
REC - FLOORBOX DAYROOM 203	20 A	39	1		40		
REC - FLOORBOX DAYROOM 203	20 A	41	1		42		
LTG - KITCHEN/DINING 204, JAN 205	20 A	43	1	1	44	20 A	SPARE
SPARE	20 A	45	1	1	46	20 A	SPARE
SPARE	20 A	47	1	1	48	20 A	SPARE
SPARE	20 A	49	1	1	50	20 A	SPARE
SPARE	20 A	51	1	1	52	20 A	SPARE
SPARE	20 A	53	1	1	54	20 A	SPARE

Notes:
* = FURNISH AND INSTALL ARC FAULT CIRCUIT INTERRUPTER (AFCI) TYPE CIRCUIT BREAKER IN THIS POSITION.

Panel: P4

Location: ELEC 229 | Volts: 208Y/120 | A.I.C. Rating: 10kA
Supply From: MDP | Phases: 3 | Mains Type: MLO
Mounting: Flush | Wires: 4 | Mains Rating: 225.0 A
Enclosure: Indoor | | MCB Rating: 225.0 A

Notes:

Circuit Description	Trip	Circuit Number	Number of Poles	Number of Poles	Circuit Number	Trip	Circuit Description
MOTORIZED BLIND CONTROL PANEL	20 A	1	1	1	2	20 A	MOTORIZED BLIND CONTROL PANEL
MOTORIZED BLIND CONTROL PANEL	20 A	3	1	1	4	20 A	REC - BUNK 212 *
* REC - BUNK 213	20 A	5	1	1	6	20 A	REC - BUNK 214 *
* REC - BUNK 215	20 A	7	1	1	8	20 A	REC - BUNK 216 *
* REC - BUNK 217	20 A	9	1	1	10	20 A	REC - BUNK 222 *
* REC - CORRIDORS 207,211,225, CAD MONITOR	20 A	11	1	1	12	20 A	REC - CAD MONITOR CORR. 211, STAIR S-3
REC - LAUNDRY ROOM	20 A	13	1	1	14	20 A	REC - COURTYARD 218
REC - COURTYARD 218	20 A	15	1	1	16	20 A	FIRE RATED POKE THRU FITNESS 230
FIRE RATED POKE THRU FITNESS 230	20 A	17	1	1	18	20 A	FIRE RATED POKE THRU FITNESS 230
FIRE RATED POKE THRU FITNESS 230	20 A	19	1	1	20	20 A	FIRE RATED POKE THRU FITNESS 230
FIRE RATED POKE THRU FITNESS 230	20 A	21	1	1	22	20 A	REC - CAD MONITORS FITNESS 230
REC - FITNESS 230	20 A	23	1	1	24	20 A	REC - FITNESS 230
REC - JAN 205, KITCHEN/DINING 204	20 A	25	1	1	26	20 A	REC - CAD MONITORS STAIR S02-2, DINING 204
REC - KITCHEN/DINING 204 COUNTER	20 A	27	1	1	28	20 A	REC - REFRIGERATOR
REC - REFRIGERATOR	20 A	29	1	1	30	20 A	REC - KITCHEN/DINING 204 COUNTER
REC - KITCHEN/DINING 204 COUNTER	20 A	31	1	1	32	20 A	REC - KITCHEN/DINING 204 COUNTER
REC - KITCHEN/DINING 204 COUNTER	20 A	33	1	1	34	20 A	REC - KITCHEN/DINING 204
REC - MICROWAVE KITCHEN/DINING 204	20 A	35	1	1	36	20 A	REC - KITCHEN/DINING 204
REC - DAYROOM 203	20 A	37	1	2	38	20 A	ODUSZ-1
REC - STUDY 202	20 A	39	1		40		
REC - KITCHEN GREASE INTERCEPTER (GI-1)	15 A	41	1	2	42	20 A	ODUSZ-2
ODUSZ-3	20 A	43	2		44		
		45		1	46	20 A	MOTORIZED BLIND CONTROL PANEL
SPARE	20 A	47	1	1	48	20 A	SPARE
SPARE	20 A	49	1	1	50	20 A	SPARE
SPARE	20 A	51	1	1	52	20 A	SPARE
SPARE	20 A	53	1	1	54	20 A	SPARE

Notes:
* = FURNISH AND INSTALL ARC FAULT CIRCUIT INTERRUPTER (AFCI) TYPE CIRCUIT BREAKER IN THIS POSITION.

Panel: MP1

Location: MECHANICAL/ TRAINING... | Volts: 208Y/120 | A.I.C. Rating: 10kA
Supply From: MDP | Phases: 3 | Mains Type: MLO
Mounting: Flush | Wires: 4 | Mains Rating: 225.0 A
Enclosure: Indoor | | MCB Rating: 225.0 A

Notes:

Circuit Description	Trip	Circuit Number	Number of Poles	Number of Poles	Circuit Number	Trip	Circuit Description
ARCTIC COMPRESSOR E4-10-A6 (EQ5)	30 A	1	3	1	2	15 A	BOILER 1A (B-1A)
		3		1	4	15 A	WATER HEATER RECIRC PUMP 1 (WHP-1)
		5		2	6	15 A	HR-4, VRFI-101, VRFI-102
EXHAUST FAN 1 (EF-1) (2HP)	25 A	7	2		8		
		9		1	10	15 A	BOILER 1B (B-1B)
PLYMOVEMENT CONTROL PANEL	15 A	11	1	1	12	20 A	REC - RADIANT MIXING VALVE CONTROLLER
EXHAUST FAN 2 (EF-2)	15 A	13	1	1	14	20 A	SPARE
EXHAUST FAN 3 (EF-3) (7.5HP)	50 A	15	3	2	16	20 A	ROLL-UP DOOR MOTOR
		17			18		
		19		2	20	20 A	ROLL-UP DOOR MOTOR
ROLL-UP DOOR MOTOR	20 A	21	2		22		
		23		2	24	20 A	ROLL-UP DOOR MOTOR
FOUR-FOLD DOOR MOTOR	20 A	25	3		26		
		27		3	28	20 A	FOUR-FOLD DOOR MOTOR
		29			30		
FOUR-FOLD DOOR MOTOR	20 A	31	3		32		
		33		2	34	20 A	ELECTRIC UNIT HEATER 1 (EUH-1) (2.5KW)
		35			36		
DRYER (5KW)	30 A	37	2	3	38	15 A	1 TON GANTRY CRANE (1.2HP)
		39			40		
REC - GLYCOL FEEDER GMP6	20 A	41	1		42		
SPARE	20 A	43	1	1	44	20 A	SPARE
SPARE	20 A	45	1	1	46	20 A	SPARE
SPARE	20 A	47	1	1	48	20 A	SPARE
SPARE	20 A	49	1	1	50	20 A	SPARE
SPARE	20 A	51	1	1	52	20 A	SPARE
SPARE	20 A	53	1	1	54	20 A	SPARE

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SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, SCOTT A. FRENCK, PE, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF PENNSYLVANIA. ENG. CERT. OF AUTH NO. PE084123 EXP DATE: 9-30-21

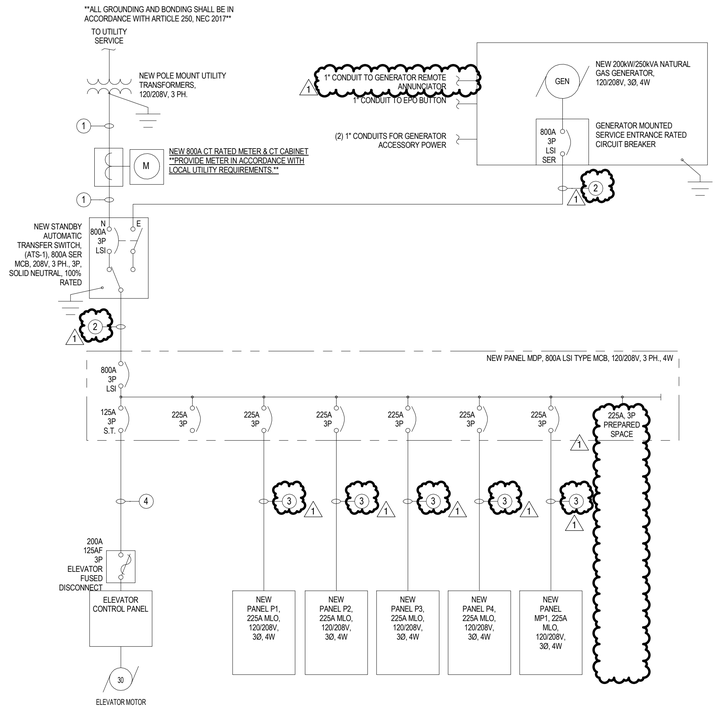
CONSULTANT: DEDC LLC ENGINEERING DESIGN CONSULTING

MARION STREET STATION, READING FIRE DEPARTMENT
1201 NORTH 9TH STREET
CITY OF READING, PA 19604

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	07/29/21
2	ADDENDUM #5	08/27/21

PROJECT NUMBER: 20-088
PROJECT SET: BID/PERMIT
DATE ISSUED: 07/09/2021
DRAWING TITLE: ELECTRICAL PANEL SCHEDULES
SHEET NUMBER: E6.00

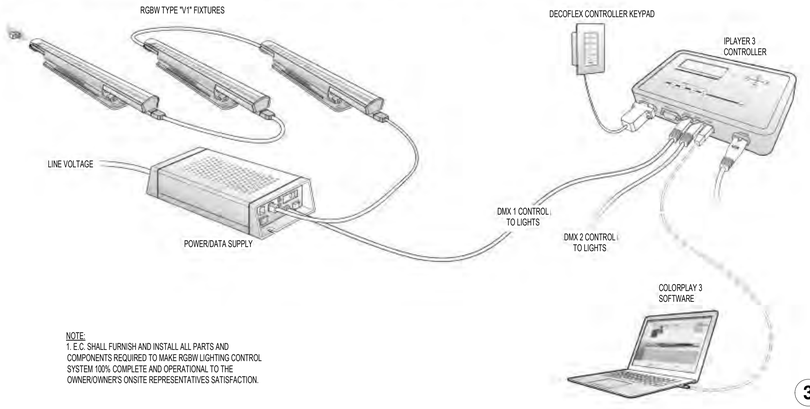
8/24/2021 5:50:03 PM



FEEDER SCHEDULE:

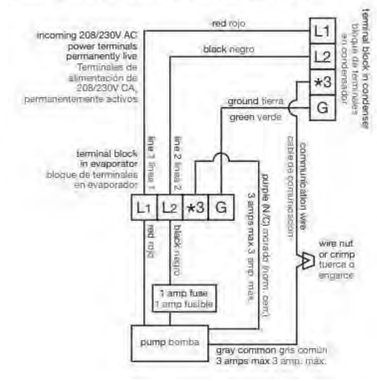
1. 2 SETS OF: (3) 500 MCM CU., (1) 500 MCM CU. GND-NEUT. IN 4" C. & (1) 4" CONDUIT.
2. 2 SETS OF: (3) 500 MCM CU., (1) 500 MCM CU. NEUT. & (1) 500 MCM CU. GND. IN 4" C.
3. (3) #4/0 AWG CU., (1) #4/0 AWG CU. NEUT. & (1) #4 AWG CU. GND. IN 2-1/2" C.
4. (3) #1 AWG CU. & (1) #6 AWG CU. GND. IN 1-/2" C.

1 ELECTRICAL NEW WORK SINGLE LINE DIAGRAM
NOT TO SCALE



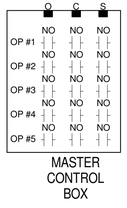
NOTE:
1. E.C. SHALL FURNISH AND INSTALL ALL PARTS AND COMPONENTS REQUIRED TO MAKE RGBW LIGHTING CONTROL SYSTEM 100% COMPLETE AND OPERATIONAL TO THE OWNER/OWNER'S ONSITE REPRESENTATIVES SATISFACTION.

2 IPLAYER CONNECTION WIRING DIAGRAM
NOT TO SCALE

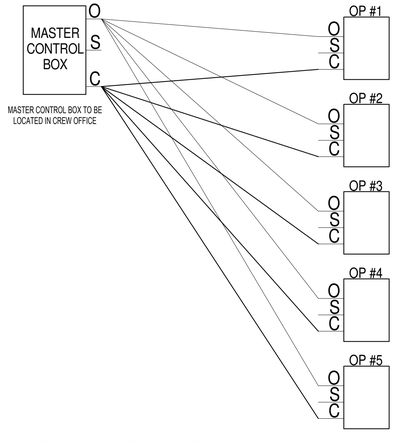


3 VRF CONDENSATE PUMP WIRING DIAGRAM
NOT TO SCALE

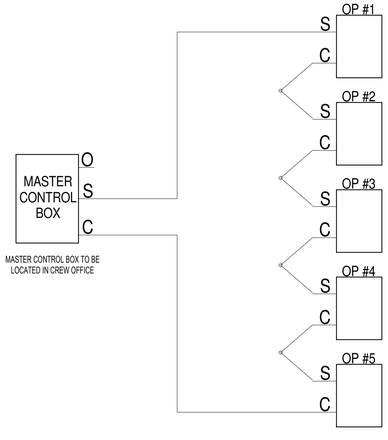
MCB INTERIOR



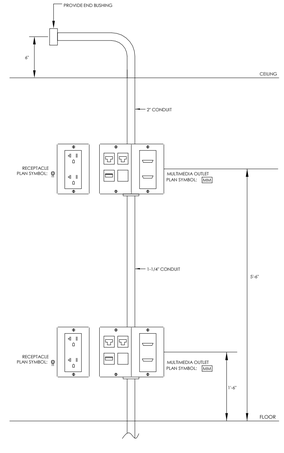
OPEN/CLOSE WIRING DIAGRAM



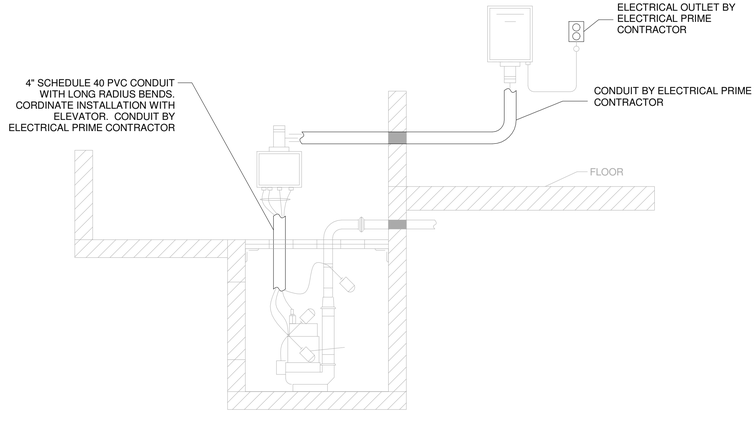
STOP BUTTON WIRING DIAGRAM



4 OVERHEAD DOOR CONTROL WIRING DIAGRAM
NOT TO SCALE



5 MULTIMEDIA OUTLET
NOT TO SCALE



6 SUMP PUMP INSTALLATION DETAIL
NOT TO SCALE

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NO.	DESCRIPTION	DATE
1	ADDENDUM #5	08/27/21

PROJECT NUMBER: 20-088
PROJECT SET: BID/PERMIT
DATE ISSUED: 07/09/2021

DRAWING TITLE: ELECTRICAL SERVICE AND SYSTEM WIRING DIAGRAMS
SHEET NUMBER: E7.00

8/24/2021 5:50:17 PM